

JPRS 83338

26 April 1983

USSR Report

AGRICULTURE

No. 1379

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

26 April 1983

USSR REPORT AGRICULTURE

No. 1379

CONTENTS

MAJOR CROP PROGRESS AND WEATHER REPORTING

- Pest, Disease Forecast for 1983
(I. Ya. Polyakov, A. F. Chenkin; ZASHCHITA RASTENIY,
Jan 83) 1

POST HARVEST CROP PROCESSING

- Progress, Problems in Production of Cotton Fibre
(V. Romanyuk; IZVESTIYA, 17 Mar 83) 11
- Follow-Up Commentary to August Article on Grain Quality
(M. N. Menzhulina; SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA,
Dec 82) 15

LIVESTOCK

- Progress, Problems in Intensification of Meat Production Reviewed
(K. M. Solntsev; ZHIVOTNOVODSTVO, Feb 83) 16

AGRO-ECONOMICS AND ORGANIZATION

- Vaskhnil Scientists Stress Scientific, Research Back-Up
for Agriculture
(I. Gorlanov; SELSKAYA ZHIZN, 22 Mar 83) 23
- Effectiveness of New System of Credit Extension to Kolkhozes
(V. Kochkarev; EKONOMICHESKAYA GAZETA, Jan 83) 26
- Compensating Agriculture for Increased Wholesale Prices
(S. B. Val'ter; PLANIROVANIYE I UCHET V SEL'
SKOKHOZYAYSTVENNYKH PREDPRIYATIYAKH, Oct 82) 29
- Procurement Pricing System for Grain Discussed
(B. Tarasenko, V. Parshin; ZAKUPKI SEL'
SKOKHOZYAYSTVENNYKH PRODUKTOV, Feb 83) 36

Services, Functions of Belorussian APO System Discussed (G. Kovalenko; SEL'SKAYA GAZETA, 2 Mar 83)	43
TILLING AND CROPPING TECHNOLOGY	
Grain Crop Protection Measures Set Forth (A. Ye. Chumakov, et al.; ZASHCHITA RASTENIY, Nov 82) ...	48
Contributions of Grain Institute in Shortandy (V. Demidova; SEL'SKOYE KHOZYAYSTVO ROSSII, Dec 82)	60
FORESTRY AND TIMBER	
Unsatisfactory Performance of Timber, Paper Industry Assessed (PRAVDA, 21 Mar 83)	66
Timber Technology Collaboration of CEMA Countries (G. Laryukhin; EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV, Jan 83)	69

MAJOR CROP PROGRESS AND WEATHER REPORTING

PEST, DISEASE FORECAST FOR 1983

Moscow ZASHCHITA RASTENIY in Russian No 1, Jan 83 pp 32-35

[Article by I.Ya. Polyakov, head of a department at the All-Union Institute for the Protection of Plants and A.F. Chenkin, deputy director of the Central Institute of Agrochemical Services for Agriculture: "Forecast for 1983"]

[Text] Last year the summer and early part of autumn were moderately warm and rainy in the European part of the USSR and the Trans-Caucasus. This delayed the development of such diseases as phytophthora infection, rust, powdery mildew, root rot, grey and white sunflower rot and it lowered the degree of harm caused by grain flies and the corn borer. However, these conditions were very favorable for the propagation of mouse-like rodents, the preparation for wintering of pentatomid and for the propagation of the grain beetle.

In the Asiatic portion of the country, the summer was for the most part dry and this accelerated the ripening of the grain crops and it suppressed the development of the grey grain moth. In the cotton growing regions, the hot weather promoted the good formation and early ripening of the crops, while at the same time it did not favor the preparation for wintering of the corn earworm.

Susliks. Their propagation was intensive. The rodents were noted migrating earlier than usual to the grain and other crops in the Volga region, in Volgograd, Astrakhan, Orenburg, Kemerovo and Ural Oblasts and in the Altay Kray, Buryat ASSR and other regions.

The same volume of treatments is planned for this year as was provided last year. In regions where only surface treatment of the soil is being carried out (Volga region and western Kazakhstan) and there are permanent suslik colonies in the grain crop plantings, improvements must be carried out in the organization of extermination measures. Control must also be exercised here over the catching of the rodents so as to reduce their numbers in the territory to a level lower than the economic threshold for damage caused by them.

Mouse-like rodents. An intense campaign was waged against this pest during the winter and spring of last year in the Trans-Caucasus, the north Caucasus and in the central and southern oblasts of the Ukraine.

In 1982, a favorable situation existed in the European part of the country and the Trans-Caucasus for the colonization and propagation of the mouse-like rodents. Compared to last year, it is expected that the degree of harm caused by them will increase in the Trans-Caucasus, the north Caucasus, the Ukraine and in some areas in Moldavia. A central colonization by mice and field mice in winter crops in the autumn and damage by them to orchards during the winter are expected in the nonchernozem zone of the RSFSR, the central chernozem region, the Volga region and in the Baltic republics. All in all, during 1983 the areas colonized by the mouse-like rodents and the level of their propagation will increase compared to 1982.

The main protective measures were carried out during the autumn and winter period and the campaign must be continued early in the spring of this year. In the process, emphasis should be placed upon the use of bait poisoned with zinc phosphide and gly-fluorine. If the protective treatments are organized in a fine manner, their overall volume should be no greater than that during 1982. If this year's summer is moderately damp, then the colonization of the mouse-like rodents may increase in the autumn. The scale of such an increase will depend upon the effectiveness of the campaign waged against the mice and field mice during the winter and spring.

In the Asiatic portion of the country, centers of damage caused by mouse-like rodents may appear in Krasnoyarsk Krai and other regions of eastern Siberia.

Harmful locusts can cause a great amount of damage in the western regions of Kazakhstan and in Uzbekistan and eastern Siberia. Extermination measures have been carried out against them in conformity with the forecast.

The Asiatic (migratory) locust has been recorded in the gregarious phase in the Syrdar'ya, Balkhash-Iliyskiy, Alakul'skiy and Amudar'ya breeding areas. In a majority of the regions of the permanent reservation, the campaign against the locusts is waged under complicated conditions. Strong winds in early June limited the possibility of employing aviation. This led to a delay in carrying out the treatments and to a reduction in their quality. During the autumn months, flights of the locusts were observed in the flooded areas of the mouths of the Ili and Karatal Rivers.

An increase in the number of Moroccan locusts was recorded in all of the principal centers of its reservation. Favorable conditions during the spring period led to the appearance of large groups of these locusts and to the colonization of considerable areas, especially in Azerbaijan, Uzbekistan and Turkmenia. This year a further increase in the numbers of Moroccan locusts is probable.

Italian locusts (*Calliptamus italicus*). Roughly one half of the volume of locust treatments is directed against this pest. Last year it was found extensively in Uralsk and Guryev Oblasts and in the Volga region. A large number of extermination measures and unfavorable conditions for development during the summer and autumn period led to a reduction in their numbers in Kirghizia and in Pavlodar and Semipalatinsk Oblasts. A high number of this type of locust was observed in Uzbekistan.

During 1983, special attention must be given to combating these locusts in the western regions of Kazakhstan and in the Volga region. The regions where protective measures are required have now moved further to the west, however the overall volume of treatments has not changed compared to 1982.

Non-gregarious locusts. An increased number of these locusts has been observed in southern Kazakhstan (here the *Dosiostaurus kraussi* locust predominates), Uzbekistan and eastern Siberia. In Irkutsk and Chita Oblasts, these locusts have shifted over to grain sowings and have inflicted damage upon them. An increase is expected this year in the number of non-gregarious locusts and in the areas colonized by them.

Protection must be provided this year for the same crop areas as last year.

In 1982 the southern grey weevil caused damage in Moldavia and in Odessa and Vinnitsa Oblasts. Owing to a rainy and cold spring, the issuing of beetles from their wintering areas was prolonged. In April the beetles were concentrated in forest strips and the winter crops. During the second 10-day period in April, they began colonizing row crops. The degree of harm caused by the weevils was not very high owing to weather which was favorable to the plants. The development of the new generation took place under optimum conditions. In 1983 the volume of treatments will increase somewhat.

Beet webworm. Small viable concentrations of this pest have been observed in the European part of the country. A cool spring and the beginning of summer bring about a delayed and prolonged flight of the butterflies following hibernation and also a subsequent advance of all of the pest's developmental periods by 10-15 days compared to periods observed over a period of many years. The ecological conditions for the development of the 1st and 2d generations of the beet webworm were favorable (adequate moisture and optimum temperatures). Mainly the second generation hibernated in 1982, with a part of the third generation in the south. This created the prerequisites for an increase in the number of the pests in the European part of the USSR.

In eastern Siberia, where concentrations of a raised number of hibernating caterpillars of the beet webworm were noted in the autumn of 1981, 85-90 percent of the specimens hibernated.. Favorable weather conditions prevailed during the period of the flight of the butterflies and the laying of eggs. This resulted in considerable reproduction of the 1st generation of the pest. In the southern regions of eastern Siberia, the flight of the butterflies of the 1st (summer) generation was observed in the Buryat ASSR commencing with the 3d 10-day period in July and in Irkutsk and Chita Oblasts -- commencing with the 1st 10-day period in August. The females had a considerable supply of fat. Their fruitfulness amounted to from 97 to 300 eggs. A high degree of harm caused by the beet webworm may continue in eastern Siberia throughout 1983.

In the Far East (Khabarovskiy and Primorskiy Krays and Amur Oblast), considerable propagation of this species has occurred for the very first time. An analysis of the synoptic situation during the mass flight of the butterflies has revealed a predominance of southwestern and southern winds and this makes it possible to assume a flight of the butterflies of the beet webworm from adjacent regions, butterflies which found good conditions for realizing their fruitfulness. The development of the second generation began during a favorable situation in the third 10-day period of July.

The number of hibernating and 1st generation specimens was low in western Siberia and Kazakhstan. The dry weather conditions did not promote their propagation. Thus no growth is expected in this region in the numbers of the pest during 1983 from the local population.

Compared to last year, an increase will probably take place in the numbers of beet webworms in the north Caucasus, the southern Ukraine and in Moldavia, with centers of high damage continuing in eastern Siberia and the Far East.

In 1983, assuming favorable conditions during the period when the population is preparing for hibernation and in the spring, an increase is possible in the numbers of this species and thus there must be an increase in the volumes of treatments compared to 1982. The required prophylactic and agrotechnical measures should be carried out in the spring, especially in areas in which the hibernating cocoons are concentrated.

Chewing cutworms. Their development in the European part of the country in the spring and summer of last year was held back by rainy and cool weather. In Tadzhikistan, the greatest number of caterpillars was observed in cotton plantings in Kulyabskiy and Vakhshskiy Rayons. In some areas the colonization of the plantings amounted to from 29 to 45 percent. The chemical method was employed for combating the pest on the cotton plantings. The volume of treatments was somewhat lower than the recommended level. This is associated with the fact that the plants developed in an accelerated manner as a result of favorable conditions. In the remaining regions, trichogrammas were released (0.3-0.8 specimens per square meter) for combating the chewing cutworms. The volume of use of this entomophage amounted to more than 33 percent of the overall volume of use of the biological method. However the advisability and effectiveness of the release of trichogrammas are still considered to be weak.

A considerable increase in the spread and numbers of the chewing cutworms is not expected in 1983, although an expansion of the areas of damage is possible. In the European party of the USSR, use should be made mainly of trichogrammas, with the volume of use of the chemical method in these regions amounting to 5 percent of the biological method.

Chewing cutworms (gamma, cabbage, alfalfa, clover, cutworm moth) have been observed in individual concentrations, but no substantial damage has been caused by them. In combating them, use is made mainly of the biological method. No great increase in the spread of the chewing cutworms is expected this year. The principal prophylactic measures must be planned using the biological method. Its use is being continued at the same level as for last year.

Corn borer. The summer conditions of 1981 brought about a lowered degree of harm caused by this pest last year. In 1983 a considerable increase is expected in the colonization of plantings by caterpillars in regions where corn is grown for grain. The volume of protective treatments should be expanded and measures should also be undertaken to ensure the effectiveness of these treatments.

Grain crop pests and diseases. Pentatomid (*Eurygaster integriceps*). Last year the status of the hibernating population was on the whole satisfactory.

Stable and cool weather prevailed during the flight and spread of the bugs on the plantings. Thus the egg laying began 1 month following their flight and the fruitfulness was lowered. In the spring of 1982, large areas were occupied by the hibernating bugs in the RSFSR and the Ukraine. Large numbers of them were recorded in Stavropol and Krasnodar Krays, in Semipalatinsk Oblast and in the Ukraine.

Last year the development of the larvae took place mainly during lowered temperatures and lasted no less than 40-50 days. It was completed during the best periods only in the southern regions of the Ukraine. Compared to 1981 the greatest increase in colonized areas occurred in the RSFSR, mainly in the central and lower Volga regions.

In 1981 an increase was noted in the numbers of pentatomids. Taking into account the ecological situation which prevailed last year, an increase in the numbers of the pest is expected in the north Caucasus, in the central and lower Volga regions, in Orenburg and Uralsk Oblasts and in a majority of the steppe regions of the Ukraine.

This year the overall level of spread for the pentatomids is expected to be higher than that for last year. However, if the protective work is organized correctly, the volume of extermination measures can even be reduced compared to 1982.

Grain beetle. In the spring of last year it was recorded on areas which were two times less in size than in 1981. The crop areas colonized by the larvae in Moldavia, the RSFSR and the Ukraine have been reduced in size. This occurred as a result of the implementation of recommended prophylactic organizational-administrative and agrotechnical measures.

In the spring, in a majority of the regions, 60-70 percent of the larvae were in the second age group. Their molting took place in the middle of April and they completed their feeding during the period from the middle of May to early June. In the spring, the chemical method was employed against the grain beetle on an area which constituted 65 percent of the area treated in the autumn. The effectiveness of the protective measures reached 80-87 percent.

Rainy weather during the summer of 1982 served to drag out the ripening of the winter grain crops. The main bulk of the beetles emerged on the soil's surface prior to the harvesting of the crops, after the treatments had been terminated, and they completed their feeding under the cuttings of mown wheat. Prior to the appearance of the spring crop seedlings, a portion of the larvae had reached the second and even the third age group. It was recommended that this circumstance be taken into account in a timely manner.

This year the existing level of damage caused by the grain beetle is not expected to change and thus the number of protective measures will also be continued. Approximately 75 percent of them must be carried out in the autumn of this year.

Leaf beetle. In 1982 the areas colonized by this pest decreased somewhat in size. In the north Caucasus and in some areas in the Ukraine, the propagation of the leaf beetle decreased owing to frequent rainfall during the egg laying and larvae hatching period. Despite this fact however, the volume of use of the chemical method exceeded the recommended figure by 10 percent. In the future, when organizing protective measures, treatments should not be scheduled for carrying out on fields having a low number of beetles or larvae. This year, taking into account the reduction in the number of beetles during 1982 and also the reduction in the size of the grain crop areas colonized by them, the campaign waged against them should be carried out on a smaller area than was the case last year.

Grey grain moth. The numbers and spread of this pest decreased in 1982. The prolonged dry weather in the spring and early summer which enveloped western Siberia, northern Kazakhstan and the southern Urals was unfavorable for the propagation of the butterflies. During the second half of the summer, during the egg laying and caterpillar hatching period, rain fell and this also hindered the development of the moth. Unfavorable weather conditions made it difficult to carry out a timely campaign against the pest: the volume of protective treatments was lower than the recommended figure. No extensive spread of the grey grain moth is expected during 1983.

Stem grain sawfly. On some farms in Stavropol and Krasnodar Krays, this pest has colonized 65 and 72 percent of the area inspected. In the Volga and Urals regions, the pest has been detected on areas greater in size than those in 1981. More than 20 percent of the plants were colonized in the Kalmyk ASSR and in Volgograd and Saratov Oblasts. The sawflies did not present a substantial threat in other regions.

In 1982, in the European part of the USSR, factors were created for the fine preparation of the sawflies for hibernation. The degree of harm caused by them in this region may increase in 1983. Thus, all of the prophylactic measures recommended must be carried out.

Grain fleas. In the autumn of 1981, favorable conditions developed in the European part of the USSR for the accumulation mainly of two of their types: Swedish and Hessian. An increase was noted in the numbers of these types in all areas. Cold weather during the spring and summer served to delay both the sowing schedules and the development of the spring grain crops and it also restrained the propagation of the grain flies. The degree of harm caused by them was manifested locally, mainly in those regions where winter and spring grain crops were being cultivated on both irrigated and non-irrigated lands (Volga region).

In recent years, an increase has taken place in the numbers of grain flies in the grain growing regions of Kazakhstan and in western and eastern Siberia. In 1982 the weather conditions during the egg laying period for the first generation butterflies lowered substantially the degree of harm caused here by this type. In 1983, there will probably be an increase in the numbers of these types in this region. Maximum use should be made of the agrotechnical measures.

Greenbugs. The warm autumn conditions of 1981 promoted the accumulation of greenbugs on winter crop plantings in the European part of the country and this predetermined the extensive spread of these pests in 1982. The relatively

cold weather during the spring and the first half of summer restrained the propagation of the greenbugs and the rather warm weather with periodic showers during the second half of summer led to a reduction in their numbers. The colonization of the spring grain crops was late and for the most part negligible.

The spread of the greenbugs this year will depend substantially upon the weather. If propagation takes place on a mass scale, the treatment areas will have to be increased considerably. The volume of protective measures to be carried out against the grain leafroller will be continued at last year's level.

Covered smut. This disease manifested itself very strongly in 1982 in a number of oblasts in the central chernozem region, the Ukraine and in Belorussia. Attention must be given in all areas to disinfecting the seed and to the carrying out of other anti-smut measures.

Rust diseases and root rot. The manifestation of these diseases was moderate and weak.

Powdery mildew developed at an intensive rate in individual centers in the north Caucasus and in Kursk, Pskov and Novgorod Oblasts.

Snow mould caused considerable damage to winter grain crops in Leningrad, Pskov and Yaroslavl Oblasts and in the Udmurt ASSR.

Cotton pests. Boll worm. This pest posed the greatest danger in Tadzhikistan. Owing to an early spring, the first generation developed on all of the crops usually colonized. Thus, on a number of farms in Kulyabskiy, Parkharskiy, Pyandzhskiy and Shaartuzskiy Rayons, there were up to 33 caterpillars per 100 tomato plants. In the case of corn, in some areas there were up to 13 caterpillars per 100 plants, cotton -- up to 20 and a maximum up to 40 (Parkharskiy and Kulyabskiy Rayons). During the developmental period for the second and third generations, a maximum of 18 caterpillars per 100 plants was recorded on cotton plants at individual farms (Kurgan-Tyube, Kulyab and Leninabad Oblasts and the Vakhsh and Gissar River Valleys).

In other cotton growing regions of Central Asia, the spread of this species was local and its population relatively scanty.

In Azerbaijan the degree of harm caused by the boll worm was greater than in 1981. For example, on farms in Zardobskiy and Meshlinskiy Rayons a count revealed an average of nine caterpillars per 100 plants and the maximum figure -- 12-16.

The multiplicity factor for cotton plant treatments was 2.6. The early ripening of the crop has hindered the preparation of the boll worm for wintering and thus a substantial increase in its spread is not expected in 1983. On the whole, the volume of treatments this year may be the same as last year, ideally with 30 percent of them being carried out using biological means.

Last year the common spider mite was found most extensively on cotton plants in Tadzhikistan, where during the month of May it was noted on almost 30 percent of the plants in some areas (mainly along the edges of fields and in concentrated areas). On a number of farms there were as many as 30-50 mobile

specimens on one populated plant and in Parkharskiy Rayon -- a maximum of up to 1,000 specimens. In June, in Kulyab, Kurgan-Tyube and Leninabad Oblasts and in the Gissar River Valley, 90 percent of the plants were colonized, with each having 1,100-5,000 mites. Extensive areas of concentration appeared in July, with 11,000-12,000 mites being counted on one plant. In August, the numbers of the pest decreased considerably: on one colonized plant there were 200-1,850 mobile specimens. During this period, fields having extensive areas of concentration of the pest were observed only on a number of farms in Kulyab and Leninabad Oblasts and in the Vakhsh River Valley. In the other cotton growing republics, the mite developed at a later date and at a less intensive rate.

Aphids and thrips appeared on cotton plantings in Tadzhikistan during the 15-19 April period. By the end of May they had appeared on 76 percent of the bushes. There were from 5 to 440 specimens on one colonized plant. During the June-August period in the Vakhsh and Gissar River Valleys and also in Yavanskiy Rayon, aphids and thrips were found on all of the plants, with each plant having from 50 to 300 specimens (a maximum of up to 3,000). In Kurgan-Tyube Oblast, thrips were recorded on 2-100 percent of the plants, with one colonized plant having from 1 to 50 specimens (a maximum of 200 specimens).

In the other cotton growing republics the aphids and thrips colonized the cotton plants at a later date and they propagated less intensively.

Last year the crop developed under favorable conditions in all areas (with the exception of Azerbaijan) and this lowered the degree of damage caused by aphids and thrips. Thus the volume of treatments was reduced compared to the recommended number.

In 1983 the aphids and thrips may inflict greater damage. The plans call for the number of treatments to be held at the level prescribed in previous recommendations. The areas treated against an entire complex of cotton pests must be increased.

Sugar beet pests and diseases. Last year, weevils and fleas constituted a great danger to this crop. This derived from the fact that the cold spring weather delayed the development of the sugar beets and thus it was susceptible to damage. The colonization of the plantings was prolonged and this raised a requirement for additional spraying of the crops. On the whole, a somewhat smaller area than that recommended in accordance with the forecast was protected against an entire complex of sugar beet pests and diseases. More than 60 percent of the overall volume of treatments was directed against fleas and approximately 20 percent -- against weevils. This year the same level of damage caused by the fleas and weevils may continue.

The spinach leaf miner does not pose as great a threat as originally expected. The remaining pests were distributed as expected in accordance with the forecast. The diseases developed in a moderate manner on the sugar beet plantings. Protective measures were carried out on a smaller area than the figure recommended.

This year the recommendation has been made to increase the treatments of sugar beets compared to last year.

Sunflower diseases. Storage rot (stem form) developed to a weak degree (3-13 percent damaged plants) and did not inflict a great amount of damage. Grey rot manifested itself to an even lesser degree (from 0.1 to 13 percent of sick plants). However, the spread of these diseases was extensive. Their potential threat to the crops continues during 1983.

The pests and diseases of pulse crops, perennial leguminous grasses, rice, flax, tobacco and rustic tobacco were encountered to a lesser degree last year than in 1981. Accordingly, a reduction took place in the areas requiring protection. For 1983, a review should be undertaken of the permanent volumes of protective treatments for the unenumerated crops.

Colorado potato beetle. Prior to August of last year, this pest was encountered in tomato, eggplant and tomato plantings in 11 union republics. Its area in the RSFSR has decreased somewhat in the northwestern region, but at the same time it has increased over a large portion of the central region and in the Volgo-Vyatsk, northern Volga, southern Urals and to the west of the western Siberian regions. An increase has taken place in the area of colonization in the northwestern oblasts of Kazakhstan. Considerable propagation of the beetle has been observed in the Komi ASSR and in Tyumen and Kurgan Oblasts. A reduction has taken place in colonization by the pest in the Baltic republics and in northern Belorussia; here it is encountered mainly in concentrations. On the average, protective treatments were carried out throughout the country one and a half times.

The increase in the colonized area in regions located in the northern portion of the area came about as a result of the hot summer period which, despite chemical treatments, favored strong growth in the numbers of the pest. The mass issuing of the beetles following hibernation coincided with the strong southern winds and high air temperatures. This promoted a dispersion of the pest and the warmer than usual months of June and July -- a rapid development of the population. By the end of the summer, the degree of harm caused here by the beetle was higher than in the spring.

In 1983 the numbers of the Colorado potato beetle will remain at the same level as that for last year in all regions of its present area of distribution. If favorable conditions exist at the beginning of summer, a certain increase in the colonized area can be expected in Kaliningrad Oblast, in the southern Baltic (Lithuania), in the north central region and in the southern portion of the northwestern region. Special attention should be given to the beetle in Volgo-Vyatskiy Rayon and in the southern Uralsk and western Siberian regions. The volume of protective treatments will be continued at the 1982 level.

Late blight of potatoes appeared in all of the potato production zones, but by the beginning of August there was only a weak degree of plant infection. Moderate development (strong in some areas) of the disease was noted in the north Caucasus, with centers of strong infection being observed in Armenia and Georgia.

The volume of treatments for protecting vegetable crops was lower than that planned. This year it has been recommended that last year's level be continued.

Last year an inadequate campaign was waged against a complex of fruit crop pests and diseases. In 1983, an increase must take place in the volume of special treatments to be carried out in conformity with the zonal systems approved by the USSR MSKh /Ministry of Agriculture/.

The protection of vineyards was carried out for all practical purposes at the established level. Difficult weather conditions precluded the possibility of carrying out the recommended protective measures in all areas.

COPYRIGHT: Izdatel'stvo "Kolos", "Zashchita rasteniy", '82

7026

CSO: 1824/263

POST HARVEST CROP PROCESSING

PROGRESS, PROBLEMS IN PRODUCTION OF COTTON FIBRE

Moscow IZVESTIYA in Russian 17 Mar 83 p 2

[Article by V. Romanyuk; "Not Raw Cotton, But Fibre"]

[Text] The work of the cotton growers and cotton cleaners must be evaluated according to the final result -- the yield of high quality fibre -- and not according to the physical volume of the cotton harvested.

The "white harvest" out on the cotton fields is an exciting and grandiose spectacle. The white bales at the receiving points resemble clouds which have fallen from the hot sky. An almost incredible white miracle is at hand. It is here at a receiving point that the heroic labor of the cotton growers is summarized: quite often, up to 10 percent of the annual plan is accepted during a 24 hour period. There is no task more important than that of harvesting the "white gold" from the fields in a timely manner. But it must still be protected, processed and improved to a condition that is suitable for industrial use.

And it is here that the poetry of the harvest campaign ends and the prose of information and reports commences. And this prose testifies to the fact that the principal bulk of the raw cotton is delivered to the cotton cleaning stations with a moisture content and degree of contamination that exceed the maximum norms set forth in the USSR's state standards. In other words, in addition to the cotton the bales also contain many thousands of tons of dirt, rocks and other refuse. The cleaning of such raw cotton involves a colossal amount of labor, during which many thousands of tons of cotton will once again be irretrievably lost.

An analysis of the situation reveals that in recent years the rates of growth in raw cotton procurements have exceeded sharply -- by a factor of almost 2.5! -- the rates of growth for the production of cotton fibre. Compared to the 8th Five-Year Plan when the cotton fibre yield per ton of raw cotton amounted to an average of 34 percent for the country as a whole, during the 10th Five-Year Plan this figure dropped to 31.1 percent. For the country as a whole, this amounted to a loss of hundreds of thousands of tons of cotton fibre.

The yield of fibre is dependent upon the variety employed. Whereas one ton of 1st class raw cotton produces 330 kilograms of cotton fibre, a ton of 4th

class raw cotton -- only 280 kilograms of cotton fibre. The computations reveal that for the actual average annual volumes of raw cotton procurements achieved during the 10th Five-Year Plan, an increase in the yield of products of 1 percent would provide 90,000 additional tons of fibre, or in a conversion for fabric, more than one half billion meters. This is a considerable reserve!

Low quality cotton fibre is used for the production of polishing cloths, packaging fabric, towels and some other products. But owing to a shortage of 1st class cotton fibre, USSR Gosplan in recent years has placed limits on the use of raw materials for the production of cotton fabric, with greater use being made of low grade cotton fibre. The enterprises have been forced into using it for producing a wide assortment of fabrics and this leads to problems in spinning and it lowers the productivity of the equipment.

In recent years, notwithstanding the increasing volumes of cotton production throughout the country, the enterprises of the textile industry are experiencing serious difficulties in the production of yarn in the assortment called for in the plan. Permit me to explain: the successful operation of the cotton industry requires a range of fibres by types and industrial varieties. Thus the resources of fine-fibred cotton having high quality fibre, for use in the production of thread, cambric, veils, percale and special fabrics, are still inadequate. There is also a shortage of cotton fibre of the fourth and full-value fifth types (calico, cotton prints, satin, repp). At the same time, the production of the sixth and seventh less marketable types of fibre exceeds the requirements by a factor of 4-5.

The harvest slogan "A greater quantity and more rapidly" is usually supplemented by the wish: "Better and of improved quality!" However a machine operator is paid for a ton of cotton harvested and thus during the frenzied harvest campaign the wonderful qualities of the "white gold" are at times overlooked. Yes and of the overall volume of fine-fibred cotton procurements, cotton which ripens later, the cropping power is only 10-11 percent whereas the minimal industrial requirements is 15 percent. True, over the past decade the country's production of fine-fibred cotton has increased by a factor of almost 1.5, but by no means is full use being made of the available potential. The southern oblasts of Turkmenia, Uzbekistan and Tajikistan could produce considerably greater amounts of fine-fibred cotton. On farms in Chardzhou Oblast, where such high quality cotton has been produced in the past, nothing is being done at the present time. Although the yield of fine-fibred cotton fibre is somewhat lower, everything is being repaid with interest during the production stage: one and a half to two times more fabric is being produced from a ton of fibre.

Unfortunately, the harvesting of fine-fibred raw cotton is often carried out using cotton harvesting machines intended for medium-fibre varieties. The cotton procurement points are being supplied with fine-fibred cotton having a degree of contamination of up to 16 or more percent and 4 percent crushed seed. The fibre obtained from such raw cotton is unsuitable for the production of worthwhile products owing to a high content of minor fibre defects. It is here that one finds the sources of the prolonged shortage of strong threads and high quality fabrics.

"Five fine-fibred and 12 medium-fibred varieties of cotton were regionalized during the 10th Five-Year Plan" stated the head of a raw materials laboratory of the Central Scientific Research Institute of the Cotton Industry of USSR Minlegprom /Ministry of Light Industry/ L. Ladynina, "High requirements must be imposed upon the selected varieties with regard to the quality of the fibre, but in actual practice this indicator is the last one to be taken into account. The first to be considered is that of the agro-economic characteristics.

And although the plans for this year call for the areas of fine-fibred varieties of cotton to be increased by almost 50,000 hectares, this will by no means cover the requirements of the light industry for cotton fibre for the production of thread, combed yarn of high counts, yarn for knitted goods and consumer goods. This is particularly true in view of the fact that decreases are continuing to take place in the sowing areas for the best fine-fibred varieties of cotton, the fibre of which has the best technological indicators: a preference is once again shown for those varieties which provide a higher cropping power.

At one time, in order to stimulate an expansion in machine harvesting operations, all of the raw cotton harvested in this manner was paid for at the price for 1st class, with a field moisture content and degree of contamination. A new standard has now been introduced which levels off the requirements for manual and machine harvested cotton: the acceptance and payments must be carried out strictly according to the varieties. True, the new standard is being introduced slowly: only preparatory work is underway in Kazakhstan and in Uzbekistan we are furnishing two thirds of the raw cotton being produced in the country; the introduction of the standard has commenced only in three oblasts and in Turkmenia -- in two.

The 26th CPSU Congress correctly raised the problem concerning the need for improving the quality of the cotton fibre and this requires an expansion in the cultivation of the more valuable fine-fibred varieties of cotton and improvements in the production structure for medium-fibre varieties of cotton having high technological fibre properties which satisfy the requirements of the textile industry. But such reorganization is being carried out slowly in the cotton growing republics.

The leaders of departments associated with the production of cotton often refer to the fact that the cotton cleaners and textile workers do not know how to protect and process the crop obtained on the basis of selfless work performed by the cotton growers. This reproach is fair to a certain degree. As is known, the flow-line technology for harvesting the cotton by machines leads to a raised moisture content and degree of contamination. Meanwhile, approximately 60 procurement points do not have drying-cleaning departments. As a result of lying for an extended period of time out under the open skies, without drying or cleaning, the cotton loses its best properties.

Obviously, the requirement being imposed upon the cotton cleaners today is quite fair: to organize a flow-line conveyer operation for the cleaning and processing of low grade raw cotton having a high moisture content and degree of contamination and establishing, as is being done in other cotton growing

countries, additional units for the drying and preliminary cleaning of cotton fibre. However the cotton cleaners are reorganizing very slowly and they are experiencing a shortage of technological equipment and high speed control instruments supplied by Minlegpishchemash /Ministry of Machine Building for Light and Food Industry and Household Appliances/ and Minpribor /Ministry of Instrument Making, Automation Equipment and Control Systems/.

The capabilities of the drying and cleaning departments are inadequate. True, the existing departments are not being utilized to maximum capability: not more than one half of the departments operate on a triple shift basis during the harvest operations. As a result, of the raw cotton of a raised moisture content and degree of contamination delivered to the points, many hundreds of thousands of tons remain unprocessed for a long period of time. And this results in a 5-7 percent reduction in the yield of cotton fibre.

Nevertheless, the reduction in cotton fibre yield must not be attributed solely to the cotton cleaners. Indeed, during the years of the 10th Five-Year Plan alone, the periods for the processing of raw cotton were curtailed by one and a half to two months, but the yield in final product continued to fall.

Many specialists believe that a need exists for changing the method for evaluating the work of cotton growers and cotton cleaners, with the yield in cotton fibre being used as the basis. It bears mentioning that some sovkhoses which have their own cotton cleaning plants are supplying the state with finished cotton fibre. Here the cotton growers are directly interested in increasing the yield of fibre obtained from a ton of raw cotton and accordingly their indicators are higher. Thus the Uzbek Kzyl Ravat Sovkhoz and the Tajik imeni Kuybyshev and imeni Kirov Sovkhoses increased their cotton fibre yields by 1.5-2 percent and improvements were also realized in the quality of the raw materials processed.

In other cotton growing countries of the world, the computations are based upon the fibre that is processed and prepared for use in industry. And this is apparently correct. It is known that the best modern cotton harvesting machines are equipped with units for the preliminary drying of the cotton. In our case, we often have to remove the existing cleaners from the machines in order to be able to carry out the harvest work at maximum speed: the material stimulus operates in a faultless manner. It is also generally known that the receivers of the raw cotton are often pressured by local interests, despite the fact that the 9 December 1968 decree of the USSR Council of Ministers contains the special stipulation that when raw cotton is being accepted only the procurement specialists are authorized to determine the variety, the moisture content and the degree of contamination.

In attempting to increase the volumes, losses may take place in the volumes themselves. A ripe boll weighs 6 grams and an unripe one -- 4 grams. And quite often it is impossible to wait -- the reporting periods must be juggled.

Does not the excessively high payment for the physical gross output of raw cotton detract from the full-value of the fibre?

7026

CSO: 1824/288

POST HARVEST CROP PROCESSING

FOLLOW-UP COMMENTARY TO AUGUST ARTICLE ON GRAIN QUALITY

Alma-Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 12, Dec 82 p 13

/Commentary by M. N. Menzhulina, manager of a group of the State Inspectorate of Quality of Agricultural Products and Raw Materials of the Kazakh SSR Ministry of Procurement: "Grain Quality Control"; this information is in response to criticism raised in a previous article on grain quality published in JPRS No 827447

/Text The article by K. Iskakov, candidate of economic sciences, and by R. Ibatullin, senior scientific worker at the Tselinograd affiliate of the Kazakh Scientific Research Institute of Economics and Organization of Agriculture, published in No 8, 1982 was entitled "Grain Quality Control." The article touched upon the relations between grain deliverers and grain receiving enterprises. The editorial board received an answer from M. N. Menzhulina, manager of a group of the State Inspectorate of Quality of Agricultural Products and Raw Materials of the Kazakh SSR Ministry of Procurement.

"The authors," she writes, "correctly raise the problem of the need to improve the methods of determining the quality and principles of economic incentives during the sale of grain to the state. Their proposal to establish for the sale of strong wheat markups on the price of soft wheat per percent of excess of the content of gluten in grain deserves study and support.

"With regard to the payment for wheat of strong varieties sold to the state and the change in the amount of markups, they were approved by a government decree as long ago as 1967, according to which the grain of wheat of strong varieties meeting the requirements of the All-Union State Standard 9354-67 is paid for at the purchase price of soft wheat in the following amounts:

with a gluten content of the first group in %	amount of excess of the price in %
32 and higher	50
28-31	30

COPYRIGHT: "Sel'skoye khozyaystvo Kazakhstana"--Qazaqstan auyly sharuashylyghy", 1982

11,439
CSO: 1824/187

LIVESTOCK

UDC 631.15:337:636(47+57)

PROGRESS, PROBLEMS IN INTENSIFICATION OF MEAT PRODUCTION REVIEWED

Moscow ZHIVOTNOVODSTVO in Russian No 2, Feb 83 pp 2-5

[Article by K.M. Solntsev, academician at All-Union Academy of Agricultural Sciences imeni V.I. Lenin: "Problems of Branch Intensification"]

[Text] The food program of the USSR for the period up to 1990, developed in conformity with decisions handed down during the 26th party congress and approved by the May (1982) Plenum of the CPSU Central Committee, calls for the population to be supplied with food goods in a stable manner and as rapidly as possible and for substantial improvements in the food structure for the Soviet people in the form of more valuable products, mainly meat and dairy items, vegetables and fruit. In this regard, the plans call for a further increase in the average annual production volumes for animal husbandry output during the 11th and 12th Five-Year Plans, through the conversion over to intensive methods for managing the branch and considerable improvements in the productivity of all types of livestock and poultry.

Under modern conditions, an intensification of animal husbandry operations is viewed as being a totality of complicated interrelated processes which encompass all aspects of production, including:

...accelerated improvements in the pedigree qualities of agricultural animals;

...the creation of stable production of diverse types of high quality feeds, which will ensure full-value nourishment for the livestock at a level in keeping with their productive potential;

...improvements in the production technologies and the conversion of production over to an industrial basis; production concentration and specialization, the creation of inter-farm cooperative enterprises;

...growth in the investment of resources in production and the development of its logistical base;

...a reduction in labor expenditures and production costs;

...improvements in the administrative systems which will ensure balanced development for all production elements;

...growth in the productivity of animal husbandry with a reduction in expenditures per unit of output.

The principal task in the intensification of animal husbandry is that of accelerating the rates of growth for the production of food products, to the level of complete satisfaction of the population's requirements and the creation of the required reserves.

The implementation of the planned program simultaneously calls for stable growth in the production of animal husbandry products.

A very important measure for accelerating the intensification of animal husbandry operations is that of converting it over to an industrial basis. Over the past 10 years, more than 4,200 large-scale industrial enterprises have been created throughout the country for the production of beef, pork, mutton, poultry meat, milk and eggs. They form a new type of animal husbandry branch characterized by a high level of production concentration and specialization, which operates on the basis of high technical-economic indicators and which performs an important social role in eliminating the differences between the cities and rural areas and between physical and mental labor.

The production of beef is being intensified in an efficient manner at 320 industrial complexes and inter-farm enterprises created in all of the country's republics and zones. Their productive capabilities amount to 2.3 million livestock billets, with an annual turnover of 2 million head. The average annual daily increase in weight per head at these complexes is higher by 225 grams (by 22 percent) than that at non-specialized farms, the raising and fattening period is shortened to 340 days and the delivery weight is 407 kg.

The indicators at 34 industrial complexes having a complete production cycle are especially high: Mir (Brest Oblast), Druzhba (Vologda Oblast), Yumatovskiy (Bashkir ASSR), Valuyskiy (Belgorod Oblast), Dubrovskiy (Chelyabinsk Oblast), imeni 25th C^hzarda KPSS (Kiev Oblast), Voronovo (Moscow Oblast) and others. At these facilities they are obtaining on the average 900 grams of average daily weight increase and the feed consumption per quintal of increase in live bulk is 6.6 quintals of feed units and labor expenditures -- 4.5 hours. The average weight for a young animal removed from fattening at 14-15 months of age is 422 kg. At the Voronovo Complex, the first of the industrial complexes, 114,000 young bulls were raised and fattened for slaughtering purposes over a period of 11 years of operations to an average weight of 440 kg.

The best indicators were achieved at the Mir Industrial Complex. Here the average daily increase in weight for 10,000 head of young large-horned cattle stock fattened annually is 1,090 grams, the expenditures for 1 kg of weight increase equal 5.4 feed units, including 2.8 kg of concentrates and the production cost per quintal of weight increase -- 101.4 rubles.

Unfortunately, some industrial complexes are not performing at the level called for in their planned production capabilities. One chief reason for this -- the animals are not being supplied with a complete norm of diverse

types of high quality feed and, as a result, the intensity of the livestock raising and fattening is low. Owing to a shortage of coarse and succulent feeds, great overexpenditures of concentrates are being tolerated. Some farm leaders are forgetting that new complexes must not be built in the absence of a strong feed base. The strengthening of a feed base requires first and foremost an investment of monetary resources. For example, during the 10th Five-Year Plan, four times more resources were allocated annually for the construction of industrial complexes and the modernization of animal husbandry facilities in the Ukraine than were made available for strengthening the feed base. The results of such an approach adversely affected the productivity of animal husbandry operations. Similar examples can be cited for the other republics. Certainly, it is well when new and good quality facilities are available for the livestock, but it is bad if in spite of this the animals are still underfed. During the 11th Five-Year Plan, a considerable proportion of the capital investments will be used for strengthening the forage base of the farms.

A general trend in the intensification of beef production and one which accounts for 45-47 percent of the gross meat production is that of raising the level of use of high quality coarse and succulent feeds during the indoor maintenance period and green feed -- during the summer period of maintenance for the livestock, with economies being realized in the consumption of concentrated feeds. The organization of cattle fattening operations, especially in those areas where natural meadow and pasture lands are available, continues to serve as a reliable means for the production of inexpensive beef. A reduced amount of attention to organizing cattle fattening operations can in no way be justified.

Summer pasture fattening of young large-horned cattle stock should be employed on an extensive scale in those zones where there are no large tracts of natural pasture land. For example, the fattening of young large-horned cattle on a tethered basis has been organized in a fine manner on many farms in the Baltic republics and in Volyn and Vitebsk Oblasts. At the Pravda Kolkhoz in Starovyzhevskiy Rayon in Volyn Oblast, young bulls graze on a tethered basis from May to September. Watering facilities should be available for the animals at the grazing site. When fed pasture grass with a mineral top dressing and without concentrated, the young bulls furnished an average daily increase in weight during the season of 700-720 grams. During 1981 and 1982, the kolkhoz fattened 700 young bulls using this method.

Improvements in the meat productivity of livestock can be achieved through the use of crossings. Thus, at the Moskalevskiy Sovkhoz in Kustanay Oblast and under the scientific direction of VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ Academician N.F. Rostovtsev, crossings were carried out using young bulls of the Charolaise and Aberdeen-Angus strains with cows of the Kazakh White-head strain and the result -- a herd of large animals capable of intensive growth and fattening based upon coarse and pasture feeds. Each year the farm sells more than 3,000 head of cattle, all of which are in a high state of nourishment. The average live weight of the animals is 502-507 kg, with the triple-strain castrated males achieving a weight of 500 kg 1.5 months earlier than their Kazakh White-head contemporaries. The profitability level for beef cattle husbandry at the sovkhov is in excess of 53 percent.

Moreover, a technology for the fattening of cattle at a year-round mechanized site has been developed in a fine manner at the farm. This has made it possible to raise labor productivity by a factor of 5.5 and to lower the production cost per quintal of weight increase by 30 percent. The daily increase in live weight is 800-900 grams and the production cost per quintal of weight increase -- 100-104 rubles.

The "return" from hog farming should be raised. At the beginning of 1982, there were 499 hog farming complexes in operation throughout the country, at which more than 10 million hogs were being maintained. Over the past 10 years, industrial hog farming has become a large-scale branch; it furnishes more than one third of all pork produced.

An analysis of the work of hog farming complexes of varying capabilities reveals that the intensity of pork production increases with an improvement in the capability of a complex. Thus, at complexes capable of fattening 108,000 animals annually, compared to complexes for 12,000 head, labor productivity is higher by a factor of 3.4, the production cost for an increase in live weight of 1 quintal is lower by 66.6 rubles and feed consumption is lower by 35 percent. The operational results of the Hog Complex imeni 50-Letiya SSSR (Gorkiy Oblast) are even better -- 216,000 head fattened annually. Here the expenditures for an increase in live weight of 1 quintal are 4.3 quintals of feed units, labor expenditures of 2.3 hours and the production cost for 1 quintal of weight increase is 88.9 rubles.

Improvements in breeding work in hog farming are also strengthening the process of branch intensification. For example, the active introduction of the method of triple-strain crossing and strain-line hybridization, developed by the Belorussian Institute of Animal Husbandry, has provided many farms throughout the republic with an increase of 6.6 percent in the yield of young pigs and an increase of 5.7 percent in the average daily gain in live weight in the animals during raising and fattening.

Unfortunately, during the course of concentration and specialization in hog farming, hog farms were eliminated at many farming establishments which had at their disposal the conditions required for the production of pork. The course to be followed for restoring such farms will provide a strong increase in the gross production of pork. Over the past 5 years, hog farms have been restored and once again organized at 6,000 kolkhozes and sovkhozes.

The opportunities for increasing the production of pork have been weakened rather than strengthened by the general conversion over to feeding the hogs mixed feeds and grain mixtures and to rejecting the use of mixed silages, vegetables and fruit, fodder melons, green feed and food scraps. Experience has shown that we must return to mixed types of feeding for hogs during fattening, a practice which has justified itself over a period of many years of use, wherein concentrated feeds constitute from 85 to 50 percent of the nutritional value of the rations.

The furnishing of assistance to the rural population in acquiring young pigs and feed is arousing extensive interest in the raising and fattening of hogs on private plots. The raising and fattening of as many animals as possible in each village and increasing the overall volume of pork production -- represents one more means for raising the intensity of the branch.

Compared to other countries, the Soviet Union has the greatest number of sheep. In terms of productivity, sheep are very versatile animals; they produce meat, wool, fur raw materials and milk. In this regard, measures aimed at intensifying sheep breeding call for an increase in the meat, wool and fur output through improvements in the pedigree and breeding qualities of the animals, strengthening the feed base and improving the maintenance technology.

The plans call for mutton production to be increased by 41.3-53.1 percent by 1990. From a biological standpoint, sheep as a meat animal possesses the same potential as do large-horned cattle and they are capable of making even better use of pastures. Sheep can be bred not only on farms which have natural feed lands at their disposal but also on farms located in zones characterized by large quantities of plowed up land. The positive experience accumulated in creating highly productive sheep breeding operations in Stavropol Kray -- a zone of intensive farming -- based upon the use in processed and granulated form of the waste products of field crop husbandry, as the principal feed for the sheep, provides a fine example for other regions of the country.

The construction of highly mechanized industrial sheep breeding complexes in the north Caucasus, the Volga area and the central regions of the RSFSR has proven its worth and provides the basis for considering an industrial technology for sheep breeding to be very promising.

The country's modern poultry raising operations constitute a right flank branch for converting production over to an industrial technology and mastering it in a fine manner. A large-scale specialized industry has been created consisting of 1,200 enterprises and involving the intensive production of egg and meat products.

The rapid development of industrial poultry raising has made it possible over the past 15 years to increase egg production at poultry factories by a factor of 12.3 and poultry meat by a factor of 13.8. The power-worker ratio at poultry factories increased by a factor of 16 and this ensured a reduction in labor expenditures per 1,000 eggs to 3 hours and per ton of increase in live broiler weight -- to 59 hours. Notable improvements were realized in feed consumption; they are presently at the level of 2.03 and 42 quintals of feed units respectively.

Industrial poultry raising is based upon the use of highly productive poultry crosses of such egg and meat types as Start, Belorussiya and Broyler 6. Further intensification of the branch and the construction of new poultry raising enterprises having modern technological equipment will ensure an increase in the production of poultry meat and eggs.

Large capital investments are to be used for converting dairy cattle husbandry over to an industrial technology. Construction work has been completed on 2,067 dairy complexes for 1.5 million cows and 185 complexes for the raising of 754,000 heifers. The past years have been years devoted to searching for and mastering industrial technologies. This work has produced results. A basically new flow-line departmental organization was developed for the production of milk and reproduction of the herd. While retaining the principal industrial condition -- flow line operations and a high level of

production mechanization -- this system has solved the problem of personal responsibility of the service personnel for protecting the health and productive qualities of the animals and the skilled tending of them during all periods of their physiological cycles.

There is a good basis for considering the Ukraina Kolkhoz in Kamensko-Bugskiy Rayon in Lvov Oblast to be the central laboratory for the development, mastering and perfecting of the flow-line departmental system of milk production. The skilled collective of livestock breeders, which constantly maintains creative contacts with the scientists, ensures efficient and rhythmic work by all departments of the dairy complex during both the winter and summer periods. Prior to the mastering (in 1975) of the flow-line departmental system, the average milk yield per cow at the kolkhoz was 3,303 kg and in 1981 4,136 kg were obtained, with a production profitability level for milk of 35 percent. The kolkhoz annually receives more than 30,000 additional rubles for the sale to the state of high quality milk. The labor productivity of the operators has increased by 50 percent.

A fine characteristic of the flow-line departmental system is the possibility of pasture maintenance of the cows during the summer period. Each department consists of an independent herd of cows. The experience of the Lvov livestock breeders is being employed in an active manner on farms in Moscow, Leningrad, Kiev and many other oblasts.

In recent years, the operational experience of many dairy complexes serves to confirm even more convincingly the fact that year-round stall maintenance of animals in enclosed facilities creates many problems with regard to protecting the health and reproductive capabilities of the animals and that it is attended by a high percentage of culling out of cows and a loss in productivity. At the same time, high indicators in lactescence and in the productive longevity of the animals are being achieved at complexes where the cows are maintained on pastures during the summer. A fine example in this regard is the Rossiya Sovkhoz in Chelyabinsk Oblast. In 1982, the average milk yield here for a herd of 2,300 cows was 4,510 kg. High indicators for milk productivity were obtained at complexes of the Dubrovitsy Experimental Farm of VIZH /All-Union Scientific Research Institute of Livestock Breeding/, at the sovkhozes Zarya Kommunizma and Petrovskoye sovkhozes (all in Moscow Oblast), at the Vyayke-Mar'ya Kolkhoz (Estonian SSR) and at many others.

Each year the dairy productivity of cows at industrial complexes is 300-350 kg higher than the average indicator for the country. As further improvements are realized in the industrial technology and in strengthening the feed base, the role played by dairy complexes in the intensification of milk production will increase. The conversion of animal husbandry over to an industrial technology represents the principal path to be followed for intensification of the branch. But this is a prolonged process and requires a definite amount of time.

At the present time, a large portion of the milk and meat is being produced on a non-industrial basis. Hence, more complete use should be made of the potential for raising the productivity of the animals by providing them with rich feed and creating optimum conditions for their maintenance at conventional

animal husbandry farms, while simultaneously undertaking measures aimed at lowering the production costs and raising the profitability of production.

An increase in the production of livestock products is inseparably aligned with an intensification of feed production. Even the most progressive technology will not ensure profitable and highly productive production in the absence of full-value feeding for the animals or the efficient utilization of feed resources. The problems concerned with balanced development of the feed base, improving the quality of the feed and its efficient utilization require maximum attention and the use of new approaches.

The food program has focused a great amount of attention on the exceptional importance of further intensifying field and meadow and pasture feed production and raising the productivity of the feed lands. This program emphasizes the need for fully satisfying the animal husbandry requirements for high quality, coarse, succulent and pasture feeds. In this regard, it bears mentioning that a lack of attention to the quality of the feed being produced, as is occurring on a number of farms, is unacceptable. If the feed is of poor quality, then a need will exist for increasing the volume of its production. If this is not done, the fulfillment of the plans for producing meat, milk and other animal husbandry products at such a farm will be confronted with a real threat of disruption.

The country has 320 million hectares of natural haying and pasture land, or one and a half times more than all of the sowing areas. This tremendous resource must be mastered completely for the production of beef and mutton. The watering and irrigation of pastures expands the forage base for dairy and beef cattle husbandry and for meat and wool sheep breeding.

Serious attention must be given to improving the quality of the mixed feed, that is, its full value. If the quality of mixed feed is evaluated according to the system for evaluating coarse and succulent feeds by classes, then many millions of tons of mixed feed, owing to a disparity in their content of metabolic energy and digestible protein and a low level of their enrichment by a complex of biologically active substances, will be categorized as non-graded feed or of 3d class quality. The feeding of such mixed feeds will not produce the productivity expected. Owing to this fact, for example, departments have now been created at many poultry factories and hog farming complexes for improving the mixed feeds obtained to the required full value. If this is not done, the animals at the complexes rapidly lose their productivity. The problem of strengthening and improving the raw material base of the mixed feed industry is of exceptional importance.

An important factor with regard to the further intensification of animal husbandry is that of creating the country's agroindustrial complex. The new organizational form for administering the branches of the APK /agroindustrial complex/ must eliminate the disproportions in the development of the individual branches of industry. This will provide a real opportunity for accelerating the rates for carrying out the tasks of the food program with regard to increasing the production of animal husbandry products.

COPYRIGHT: Izdatel'stvo "Kolos", "Zhivotnovodstvo", 1983

7026

CSO: 1824/265

AGRO-ECONOMICS AND ORGANIZATION

VASKHNIL SCIENTISTS STRESS SCIENTIFIC, RESEARCH BACK-UP FOR AGRICULTURE

PM041321 Moscow SELSKAYA ZHIZN in Russian 22 Mar 83 p 5

[I. Gorlanov report: "Putting Scientific Potential at the Service of the 5-Year Plan; Vaskhnil Scientists' Annual General Meeting"]

[Excerpts] The annual meetings of the sector departments and general meeting of the scientists of the V. I. Lenin All-Union Academy of Agricultural Sciences (Vaskhnil) were held 15 and 16 March. The participants heard an address by Vaskhnil First Vice President A. A. Nikonov entitled "K. Marx' Teaching and Current Agrarian Problems" and a report by Vaskhnil Academician V. I. Nazarenko, chief scientific secretary of the Academy Presidium, on the results of work in 1982 and on the tasks facing agricultural science in the light of the decisions of the 26th Party Congress and the CPSU Central Committee May and November (1982) Plenums of the Communist Party Central Committee.

Summing up the work of Vaskhnil scientific collectives and sector and regional departments in 1982, the meeting participants noted that the academy's scientists had more actively and purposefully addressed themselves to the tasks entrusted to them with regard to providing scientific and technical backup for the USSR food program's implementation. Attention had been focused chiefly on elaborating comprehensive targeted programs of state and sector significance.

The reorganization of Vaskhnil's work to give it a more active role in achieving the food program's aims is, however, still not making sufficiently rapid progress, it was said at the meeting. Scientific resources are still being dissipated and liaison between scientific establishments and sectors of the agro-industrial complex is poorly organized, especially when it comes to introducing scientific achievements into production. And yet this constitutes science's main reserve for accelerating the food program's practical implementation.

As is known, the food program envisages an increase in the growth rate of agricultural production and the steady development of such production. This can only be achieved by implementing an integrated package of measures embracing the problem's biological, technological, economic, organizational and social aspects. Arable farming, work with the land, constant concern for increasing

its fertility, and a thrifty attitude to land have always been and remain central to this.

Noting the beneficial impact made on the efficiency of arable farming in North Kazakhstan, West Siberia, the Volga region and a number of other regions by the antierosion farming system, the scientists drew attention to the fact that the problem of protecting the soil from erosion, especially water erosion, is still far from solved. It is therefore important to more actively devise protection measures to suit different soil types, especially on sloping ground. We have, after all, around 120 million hectares of such land--that is, about half of all farmland.

The meeting participants devoted considerable attention to questions of the development of stockraising. This sector is still in need of scientists' active assistance. Their attention is focused on fulfilling a comprehensive program envisaging a considerable increase in the production of milk, meat, eggs, wool and other output from livestock units and an improvement in the quality of such output. Much has already been done: a number of new breeds and breed groups and lines of farm animals have been created and industrial production techniques have been elaborated in practically every stockraising sector. The work being done by the All-Union Stockraising Research Institute and a number of other institutes on the further introduction and improvement of embryo transplantation techniques is a major achievement of Soviet zoo-technical science, and promises to dramatically increase the efficacy of breeding and pedigree work.

Under the targeted fodder production research program, in whose implementation more than 100 of the country's scientific establishments are participating, a considerable amount of work has been done to increase production of fodder and to improve its quality and ways of preparing and storing it. In particular, scientifically based recommendations have been elaborated whose application will make it possible to increase fodder production on arable land, in hayfields and on pastureland by 30-40 percent and to obtain an average of 4,000-5,000 fodder units per hectare of plowland and meadowland and as much as 10,000-11,000 under irrigation.

But, as was pointed out at the meeting, proper scientific solutions have still to be found for many of the problems involved in feeding livestock and ensuring that rational use is made of fodder stocks. The comprehensive mechanization of agricultural production sectors is a vital prerequisite for the food program's successful implementation. Considerable successes have, of course, been scored in this sphere and they are well-known. Scientific establishments under the Vaskhnil umbrella have completed a number of major research projects on the mechanization of industrial processes in crop production and stockraising and have been actively involved in deciding the structure of the machinery and tractor pool and the range of harvesting equipment and in establishing fundamentally new grain harvesting combines like the Don-1200, Don-1500 and the rotor.

Nevertheless, it was stated at the meeting, engineering institutes are still coping poorly with their appointed tasks. The poor results of many scientific

research projects and breaches of planning and executive discipline were noted in particular. The Vaskhnil Presidium, the meeting participants were informed, is currently taking practical steps to remedy the shortcomings which have been allowed to occur and to raise the standard and increase the effectiveness of engineering and technical research projects.

Such major tasks as accelerating the rate of growth of agricultural production, stabilizing this sector and making fuller and more rational use of available reserves cannot, it was said at the meeting, be successfully resolved without radically improving the whole economic machinery and the management system right across the board. This means making extensive use of economic levers, especially levers like a valid correlation between the prices of agricultural output and the industrial goods used in this sector, financial autonomy in every labor collective and the sector as a whole, material interest [zainteresovannost] and material responsibility.

This is exceptionally important now that enormous capital investment is going into rural areas. The return on this investment has, nevertheless, been decreasing appreciably in recent years. The main reason for this is inefficient utilization of production capital. And yet if kolkhozes and sovkhoses were to increase the return on fixed capital by just 1 percent the country would obtain more than \$1 billion worth of grain, milk, meat and other products of arable farming and stockraising. The potential for doing so exists on any farm and in any collective. Spotting that potential and tapping it as quickly as possible is the paramount task of scientists and production workers.

Speaking in the debate at the meeting were: Vaskhnil Academicians P. F. Garkavyy, N. A. Korneyev, T. N. Kulakonskaya, I. I. Lukinov, K. U. Medeubekov and M. S. Runchev; corresponding members of Vaskhnil M. A. Smurygin, V. N. Syrin, V. I. Fisinin, B. G. Shtena and other scientists.

A resolution adopted by the general meeting sets out specific measures for increasing the effectiveness of scientific research, ensuring Vaskhnil scientists' active participation in the food program's implementation, and giving rural workers effective assistance in making practical use of the achievements of science and technology and increasing the productivity of the fields and livestock units.

Taking part in the meeting's work were A. N. Kashtanov, deputy chief of the CPSU Central Committee Agricultural Section; V. S. Sheveluka, USSR deputy minister of agriculture; and other executives of the CPSU Central Committee, USSR Council of Ministers, ministries and departments.

CSO: 1824/296

EFFECTIVENESS OF NEW SYSTEM OF CREDIT EXTENSION TO KOLKHOZES

Moscow EKONOMICHESKAYA GAZETA in Russian No 5, Jan 83 p 18

[Article by V. Kochkarev, chief of the Administration for Credit Extension to Kolkhozes of the USSR State Bank: "Credit Effectiveness"]

[Text] At present all the country's kolkhozes operate on the basis of a direct bank credit extension. At the same time, some farms receive credit from a loan account and others from a special current account.

Practice has shown that a direct bank credit extension has proved its value. Kolkhoz managers and specialists have begun to pay more attention to the development and strengthening of production, intensification of cost accounting principles and improvement in the organization and remuneration of labor of kolkhoz members. State Bank institutions are able to more efficiently exercise ruble control over the receipt and expenditure of the funds of kolkhozes and the repayment of loans.

It seems to us that the further development of credit relations between kolkhozes and the State Bank requires an improvement in the work on the formation of circulating capital and an increase in the responsibility of kolkhozes for its correct and efficient utilization. As is well known, the production process on farms should be ensured by the joint functioning of both internal and borrowed capital. At present, however, the share of the internal capital of kolkhozes in the formation of circulating capital has decreased considerably. Whereas in 1970 internal circulating capital on kolkhozes comprised 60 percent of all the circulating capital, in 1981, only 14 percent.

To a certain extent this is due to the fact that direct bank credit is extended on the basis of the actual availability of internal circulating capital on a farm. In connection with this kolkhozes are not very interested in preserving, promptly replenishing and efficiently utilizing it. Such a situation has led to the fact that some farms hardly have internal circulating capital and all production expenditures and outlays are covered by bank credit.

To intensify cost accounting principles and to increase the responsibility of farms for an efficient utilization of internal circulating capital, State Bank institutions in coordination with local bodies conduct an experiment in the extension of short-term credit to kolkhozes with due regard for the standards of internal circulating capital. This work is carried out most actively

on kolkhozes in the Ukrainian, Belorussian, Turkmen and Estonian SSR. At the same time, kolkhozes with different profitability levels are transferred to the new system of credit extension.

Credit to kolkhozes with due regard for the standards of their internal circulating capital is extended from an individual loan account with the opening of current accounts for all kolkhozes. As a result of this a more precise differentiation of internal and borrowed sources of formation of circulating capital is ensured.

The transfer of kolkhozes to the experimental system of credit extension is preceded by work on the study of their financial status, economy and production and financial plans and of the provision of farms with internal circulating capital. In cases when at the moment of transition to the new system of credit extension the actual availability of internal circulating capital on a kolkhoz was below the adopted standard, the State Bank granted special credit for the formation of the standard of internal circulating capital for a period of up to 5 years. This credit was granted against measures to strengthen the economy and the financial status developed by farms. Control over the fulfillment of the indicated measures on the part of the State Bank was established.

An analysis of the results of work of kolkhozes receiving credit with due regard for the standards of their internal circulating capital shows that the new system creates better conditions for the performance of financial and economic activity and for the execution of prompt settlements of accounts with kolkhoz members in connection with wages and other monetary obligations. At the same time, control over the financial and economic activity of kolkhozes on the part of State Bank institutions is intensified. Basically, all kolkhozes transferred to the experimental system of credit extension made use of short-term State Bank loans during the year. At the beginning of 1982 a total of 699 out of the 2,503 kolkhozes transferred to the new system of credit extension fully settled their accounts with short-term loans. The internal circulating capital of kolkhozes comprised 57 percent of the standardized circulating capital.

An analysis of credit relations with kolkhozes transferred to the new system of credit extension also showed that, despite existing difficulties, these farms better overcame the consequences of unfavorable weather conditions and by means of bank credit ensured the production of agricultural products at the 1980 level. They not only preserved the total absolute size of internal circulating capital, but ensured its increase as well, whereas it decreased throughout the country's kolkhozes.

The following data also attest to the effectiveness of credit extension to kolkhozes. An economically substantiated distribution of public income for accumulation funds and consumption funds is ensured to a greater extent on these farms. In 1981 they raised the amounts of deductions from net income for an increase in fixed and circulating capital from 288.1 million rubles to 332.3 million rubles, whereas on all kolkhozes deductions for the indicated measures rose only 7.4 percent.

The level of control of State Bank institutions over the state of settlements of accounts on kolkhozes and the ratio of the capital for basic activity and of capital investments is rising. Thus, in 1981 a total of 44 kolkhozes in the Kazakh SSR, to which credit was extended in accordance with the experimental system, attained a reduction in the immobilization of circulating capital in capital investments from 4 million rubles at the beginning of the year to 2.2 million rubles at the end of the year.

Examples of the positive effect of the experimental system of credit extension on many kolkhozes in other republics can be cited. After the transfer of kolkhozes in Kherson Oblast to the new system of credit extension their economy was strengthened markedly. The proportion of credits having material security rose (from 38.2 to 68 percent) last year. Payment discipline on farms was improved. In 1981 overdue debts on State Bank loans were reduced from 21.8 million rubles at the beginning of the year to 1.4 million rubles at the end of the year. During that period nonpayments to suppliers for commodity stocks were reduced from 24.1 million rubles to 0.8 million rubles.

As an analysis shows, on the whole, the new system of credit extension to kolkhozes corresponds more to the principles of organization of bank credit extension and is more fully coordinated with the movement of commodity stocks. It also has a positive effect on an improvement in planning and accounting on farms. In connection with this, in my opinion, State Bank institutions and agricultural bodies must study this experience more profoundly and, to the extent of their preparation, transfer other kolkhozes to the new system of credit extension to and financing for farms.

11,439

CSO: 1824/235

AGRO-ECONOMICS AND ORGANIZATION

COMPENSATING AGRICULTURE FOR INCREASED WHOLESALE PRICES

Moscow PLANIROVANIYE I UCHET V SEL'SKOKHOZYAYSTVENNYKH PREDPRIYATIYAKH in Russian No 10, Oct 82 pp 31-35

[Article by S.B. Val'ter, deputy chief of the Central Finance Administration of the USSR Ministry of Agriculture, entitled: "Greater Compensation for Those Expenses Incurred as a Result of Increased Prices for Manufactured Goods"]

[Text] In recent years there has been an increase in the interdependence between agricultural enterprises and those organizations that have finance departments at the farm level. These latter formerly had the sole function of handling budget payments for farms. Now these financial departments, through channels marked for the budget, make payments to agricultural enterprises and organizations in compensation for the additional expenses incurred because of the increased wholesale prices for manufactured goods, electricity and heating rates, and rates for services of secondary organizations. Payment for these expenses is made monthly, 10 days after the receipt of the previous month's expenditures on goods and services; compensation is also made on the basis of the price difference on gasoline and petroleum products. Quarterly payments are made 10 days after the receipt of inventory statements from organizations of the State Committee for Supply of Productive Equipment for Agriculture [Goskonsel'khoztekhnika].

The work of these finance organizations becomes all the more significant because the total sum of compensatory payments to agricultural enterprises is more than R one billion annually, or about R 100,000 per kolkhoz or sovkhaz. Naturally we cannot exclude compensation for the above-mentioned expenses that is only partial; that would incorrectly inflate the value of agricultural production and lessen the value of the work and financial position of kolkhozes and sovkhazes.

Several farm economists and accountants, rectifying improper and improperly timed receipts of compensation for increased expenses, point to the complexity of current regulations. But a careful examination of the January 12, 1982 instructions from the USSR Ministry of Finance, Gosbank, the Ministry of Agriculture and Goskomsle'khoztekhnika dealing with compensation of the agricultural sector for the additional expenses incurred because of increases in wholesale prices for manufactured goods should minimize difficulties.

In a practical sense the instructions determine how compensation for the additional expenses is to be made, subdividing the prices paid by agricultural enterprises for goods and materials into several groups.

On several items in the first group of goods (tractors, cars, trucks, trailers, agricultural machinery and mineral fertilizers) wholesale prices are used as the sale price to agricultural enterprises; supply organizations of Goskomsel'khoztekhnika and of the Agrochemical Services to Agriculture Scientific Production Association [Soyuzsel'khozkhimiya] will receive the compensation as they are the ones selling their goods to agricultural enterprises at the former, lower prices.

The second group of goods (spare parts, equipment, accumulators, belts, hardware), procured from supply organizations of Goskomsel'khoztekhnika, will have a discount based on the new wholesale prices (including the new price increases on goods); up to 15 percent of the discount will be made up out of the budget of these organizations. The latter will indicate the amount on selected goods for agricultural enterprises with the stamp "Compensation through the USSR Goskomsel'khoztekhnika".

The third group of goods are petroleum products; compensation is based on the price differences for gasoline. This gasoline is supplied from reserves held by organizations of Goskomsel'khoztekhnika; they then provide purchase statements for the forthcoming quarter to financial organizations and farms. Compensation is also carried out at a fixed discount per ton of the following products: home heating fuel, R 32; commercial kerosene, R 28; motor fuel, R 21; furnace oil, R 12.

Accounting departments of kolkhozes, as far as the above-mentioned three groups of goods are concerned, are responsible for the following: making sure that prices, discounts, price increases, cost accounting and payments are correct, and that accounts are done on time.

The fourth group includes a wide variety of goods and services; agricultural enterprises pay the wholesale prices (with the price increases) and rates that were set on January 1, 1982. Compensation for the price increases is paid for by local financial organizations. They present orders for these goods and services, that is payment orders and expense lists.

This latter group contains spare parts, equipment, accumulators, belts and hardware, all of which were procured by agricultural enterprises from other state supply organizations and outfitters (except those of Goskomsel'khoztekhnika), as well as the following items: lumber and construction materials; hard coal and other types of hard fuel; liquefied gas; metals; machinery for road building, land melioration and forestry; industrial and specialized trucks; specialized cars; forest products, uprooted timber and other goods; electrical and heating energy, network gas, all supplied by state supply organizations and outfitters (except interfarm cooperative enterprises, kolkhozes and sovkhoses); repair and technical services undertaken by enterprises of Goskomsel'khoztekhnika and other ministries and departments; major land improvement work paid for in part by kolkhozes and sovkhoses (the cost of

hauling in peat and liming the soil minus budgetary allocations for operational expenses on this very work).

In this group of goods and services, in order to simplify work, there are only four locally-established average discount levels from wholesale prices and rates: for uprooted timber (payment by the number of trees felled), 50 percent; construction materials and lumber, 25 percent; for all remaining production and technical materials, 15 percent; for repairs, technical and other types of service and work pertaining to production, 12 percent.

The monthly accounts for goods and services in the fourth group, presented by kolkhozes and sovkhoses to local financial organizations, should indicate the account number, the name of the organization placing the order, the name of the group of goods, the cost of the group of goods and services including the price increases, the discount as a percentage of the cost of the goods and services, and the amount of the discount and the appropriate compensation. The compensation for construction and lumber materials are determined without the price increases.

So a correct and precise organization of receiving compensation for the additional expenses should cause no difficulties. Such work has been well-formulated, for example, on the Kutulukskiy sovkhos of Kinel'skiy rayon, Kuybishev Oblast. The chief accountant here is Ya. Gorshkov. Here all questions dealing with compensation for additional expenses incurred because of increased wholesale prices for manufactured goods are handled separately; there are instructions, procedural methods, monthly compensation calculations, and references to bank statements on transfers to the farm's accounts. At the beginning of the month each sovkhos conducts a complete examination of accounts with suppliers, determining the value of manufactured goods, and with organizations providing various services. All the necessary figures are given to the inventory department; they form the basis of expense lists. Forms for these expense lists are prepared beforehand in adequate amounts. This will permit all compensatory sums to be calculated and presented ahead of time to rayon finance departments [rayfinotdel]; in such a manner control will be had over a correct and on time calculation of the credits for the sovkhos's accounts.

In addition, familiarity with the work of kolkhozes and sovkhoses shows that, as far as on time and correct payment from the budget for increased expenses goes, there are still many shortcomings. The most typical is the partial inclusion of the values for goods, materials and services on to expense lists for subsequent compensation. In such a way, for example, the Dmitrovskiy sovkhos of Lipetskaya Oblast was shortchanged R 1,000 for March and April of this year. The Pravda kolkhoz of Blizyukovskiy rayon of Kharkhov Oblast failed to include on expense lists bills for repair work, construction and other materials, a total of R 7287. The Dobrovolets kolkhoz of Kalininskaya Oblast and the Vostok sovkhos of the Mariyskaya ASSR also had presented partial cost accounting.

Certain farms are late in presenting their expense lists to the rayfinotdels. With a deadline of the tenth day of the following month, the Shevchenko,

Leninskaya Pravda and Rossiya kolkhozes of Nedrigaylovsky rayon , Sumskaya Oblast, submitted their first quarter expense lists by June 7 or 8 of this year; 15 kolkhozes and sovkhoses of Aleyskiy rayon, Altayskiy Kray, still had not submitted their May lists by the due date of June 16; 11 farms of Astrakhanskiy rayon in Tselinogradskaya Oblast had still not submitted any of this year's expense lists by the due date of June 11. Such facts indicate an obvious lack of concern for an on time reception of compensation for additional expenses and an underestimation of the importance of this issue for the farm economy.

This is also supported by instances of carelessness, when farms fail to indicate the dates for which the expense lists apply, when they do not exert control over correct compensation by failing to compare the sums indicated on the lists with those sums obtained in a special accounting from bank statements. Sometimes there are mathematical errors, sometimes incorrect discounts are used.

At times the compilation of expense lists is made unduly complicated. The Vpered kolkhoz of Sovetskiy rayon in the Mariyskaya ASSR, in its March expense list, instead of grouping goods with the same discount percentage for receiving compensation, enumerated all 64 designations of values for goods and materials. Another expense list prepared by this kolkhoz enumerated 226 designations for goods and services. The Ol'ginskiy sovkhos of Bezenchukskiy rayon in Kuybishev Oblast performed the unnecessary work of indicating price increases on goods (instead of adding the price increase to the item's cost) and also the percentage and amount of discount on the price increases; this greatly complicates accounting and in fact is not part of the issued instructions.

There are other shortcomings. We know that, according to instructions for handling compensation for expenses, there are separate expense lists for fixed capital goods; these lists are used in calculating monetary compensation for accounts for financing capital investments. However certain farms, like those of Bezenchukskiy rayon in Kuybishev Oblast, generally do not formulate special expense lists for calculating expenditures on these accounts. This cannot be tolerated only because expenses for capital investments are transferred to a special loan account; from there money is withdrawn for capital expenditures, and farms may experience a shortage of funds for financing these expenditures.

The established procedure of compensating agriculture for additional expenses is new not only for kolkhozes and sovkhoses but also for local financial organizations. Under such conditions all questions on compensation for expenditures based on one or another price of goods, materials and types of service must be decided jointly by farms, rayfinotdels and, when necessary, by higher organizations.

It is absolutely necessary that both sides keep in mind the basic principle set forth in current regulations: compensation can be made for expenditures on all types of manufactured items and on services on which there are increases in wholesale prices and in rates dating from January 1, 1982. There

are the following exceptions: those items for which the difference in price is made up by organizations of Goskomsel'khoshtekhnika and Soyuzsel'khoshtkimiya; electrical and heating energy, network gas, supplied to individual consumers at preferential prices and rates; those goods whose wholesale prices have not been affected or which have decreased since January 1, 1982; freight transport by various means of conveyance, goods sold at retail prices, and those manufactured items and services provided by sovkhoses, kolkhoses and interfarm organizations.

Therefore those farms are correct that do not exclude from their expense lists those goods and services whose prices and rates have increased since January 1, 1982. For example, the following farms in the Privolzhskiy rayon of Kuybishev Oblast underestimated on their expense lists for the first quarter of this year the following compensations due to them: the Mirniy sovkhos, R 368 for slate purchased from the rayon branch of Goskomsel'khoshtekhnika; the Primor'ye sovkhos, R 763 for repair work performed by an energy association and also for iron and concrete blocks purchased from its sponsoring industrial enterprise; the Galaktionov sovkhos, R 2398 for repair work performed by an energy association and for nails, agricultural implements, paint and pipes purchased from various enterprises. The Vpered sovkhos of Gryazinskiy rayon in Lipetskaya Oblast underestimated by R 1332 expenditures for electrical motors, starter engines and facing tiles, and for repair work performed on heating pumps, etc. by organizations that aren't a part of Goskomsel'khoshtekhnika.

Many farms and financial organizations are very responsible in their new work on compensation for additional expenses incurred because of increased wholesale prices on manufactured goods. There was a meeting in Kinel'skiy rayon in Kuybishev Oblast of employees of the rayon finance department and of the rayispolkom's production administration of agriculture together with the chief accountant for agricultural enterprises; organizational and procedural questions dealing with on time and full compensation of farms for additional expenses were discussed in great detail. And it is not a chance happening that in this rayon farms present their expense lists on time or even ahead of schedule; workers of the rayfinotdel are very efficient in checking the figures and immediately withdraw the compensation from budgetary allotments. All farms of the rayon (eight sovkhoses and nine kolkhoses) presented their May expense lists by June 9, and already by June 10 the rayfinotdel supplied the Gosbank branch with payment instructions for depositing to the farms' accounts the appropriate allocations.

Unfortunately such work is not being performed everywhere. In several rayons neither the farms nor the rayfinotdel meet mutual requirements. For example, all farms in Orshanskiy rayon in the Mariyskaya ASSR submitted their expense lists for compensation of expenses in the first quarter by April 16, while some submitted lists for April and May by June 10. As of June 11, however, the rayfinotdel had not calculated compensatory sums from even one of the submitted lists. The Logoyskiy rayfinotdel of Minsk Oblast on June 9 still had not awarded compensation to the Sputnik and Logoza sovkhoses, even though their expense lists, amounting to R 5986, were received May 3, 7, 19. We find such poor work at the Volzhskiy rayfinotdel of the Mariyskaya ASSR.

Several financial organizations just refuse to award compensation for expenses to those farms which delay submitting their expense lists; this is of course incorrect. Such situations were encountered at the Rossiya and Rodina kolkhozes of Tal'menskiy rayon in Altayskiy Kray and at the Progress and Noviy Put' kolkhozes of Volzhskiy rayon in Kuybishev Oblast. Certain sanctions, including administrative ones, can be taken against those responsible, but then why "punish" the economy of the farm and the entire work collective?

Several rayfinotdels (Bezenchukskiy rayon in Kuybishev Oblast and Payarykskiy rayon of Samarkand Oblast) have suggested that the farms should not indicate on their expense lists the discount percentage and the amount of compensation which are calculated by the rayfinotdels themselves. This we cannot agree with, inasmuch as control over the correct amount of compensation would thus be removed from the farms.

For sure many mistakes could be eliminated if local agricultural organizations would pay more attention to the work of compensating agriculture for additional expenses. However certain rayon agricultural administrative bodies remain on the sidelines, failing to give farms the necessary help. We are referring to certain rayon administrative units of Tselinogradskaya Oblast in the KaSSR and of Samarkandskaya Oblast in the UzSSR; they have not set up proper working arrangements with rayfinotdels, have not conducted joint policy meetings with the chief accountants of kolkhozes and sovkhozes, and have not adequately informed the farms in their charge.

The most serious problem is that of compensation for the difference in prices on gasoline and petroleum products. Here the process for compensation is much simpler than for other manufactured products. The rayfinotdels award compensation to farms according to extracts from inventory statements which are prepared by organizations of Goskomsel'khoztekhnika. The apparent simplicity of this manner of compensation seems to "pacify" inventory workers of kolkhozes, sovkhozes and agricultural organizations. Yet it still does not eliminate existing problems.

Accounting offices on the Vasil'yevskiy and Ol'ginskiy sovkhozes of Bezenchukskiy rayon in Kuybishev Oblast have no copies of inventory statements for gasoline and petroleum products. These copies are usually given to the farm's petroleum depot where they serve as a means of procurement of fuel at gas supply organizations. Once the fuel is procured, these copies should be handed over to the farm's accounting office. If not, then they no longer can be used as important accounting documents. It is only by using them that farm accounting offices can exert any control over receiving the correct compensation for the difference in prices on gasoline and petroleum products.

It is also important to remember that instruction no. 44 of May 6, 1978 from the USSR Ministry of Finance concerning compensation for the price differences on gasoline and petroleum products is so formulated: to give agricultural enterprises motivation for a more economical use of gasoline (supplied from current stocks), that part of the compensation received for increased gasoline prices which is not used shall remain at the disposal of the enterprise and shall be counted as part of its profit. Therefore a careful accounting

from copies of inventory statements is necessary not only for determining wasteful use of fuel (and penalizing the guilty parties) but also for determining the economical use of fuel, awarding bonuses, and transferring those funds received for price compensation to the profit of the farm.

Certain associations of Goskomsel'khoztekhnika do not process inventory statements by the beginning of the quarter as required by instructions but rather much later. Therefore payments of compensation to farms is delayed. Such delays of inventory statements (sometimes up to 75 days) were encountered in Furmanovskiy and Shuyskiy rayons of Ivanovskaya Oblast and in the Mariyskaya ASSR. Therefore kolkhozes, sovkhoses and rayon agricultural administrations must take measures to ensure that inventory statements are received on time.

In particular we cannot tolerate late inventory statements for supplementary supplies of gasoline. Such a supply statement for 404.9 tons of gasoline to farms in Orshanskiy rayon in the Mariyskaya ASSR (compensation out of the budget for this gasoline amounted to R 39,500) for 1980 was written up finally by May 25, 1981. The supplemental supply statements for 1981, due June 11, 1982, were still not written up by that date even though farms of the rayon received additional supplies of gasoline.

In 1981 kolkhozes and sovkhoses of Sovetskiy rayon in the Mariyskaya ASSR actually received 472 tons more of gasoline than was indicated in supply statements. In response to a request from the rayon agricultural administration, the Goskomsel'khoztekhnika association of the Mariyskaya ASSR provided a supplemental supply statement for that amount of gasoline on May 12, 1982. As a result, compensation was paid to farms for the amount of R 43,907.

According to regulations, compensation to farms for price differences on gasoline are held back if the farms themselves supply this gasoline to secondary organizations. Therefore it is necessary to calculate correctly the quantity of gasoline released to these other organizations and to present the corresponding receipts to the rayfinotdel on time. Such deviations were encountered in Makinskiy rayon of Tselinogradskaya Oblast; here the Karamyshevskiy and Suvorovskiy sovkhoses underestimated the amount of gasoline supplied to other organizations in the receipts presented to the rayfinotdel. As a result they received for compensation in 1981 R 13,900 more than they should have. This amount was recovered from the sovkhoses' accounts, and in addition they were forced to pay fines amounting to R 2,400.

If we consider just how vital to the economy of kolkhozes and sovkhoses compensation is for additional expenses incurred because of increased wholesale prices on manufactured goods, then it is so important to maintain complete control over the process whereby farms receive full and on time compensation and to increase the degree of responsibility of those workers entrusted with this task.

COPYRIGHT: Izdatel'stvo "Kolos", "Planirovaniye i uchet v sel'skokhozyaystvennykh predpriyatiyakh", 1982

9964

CSO: 1824/60

AGRO ECONOMICS AND ORGANIZATION

PROCUREMENT PRICING SYSTEM FOR GRAIN DISCUSSED

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 2, Feb 83 pp 31-33

[Article by B. Tarasenko, chief, finance administration, USSR Ministry of Procurement; and V. Parshin, administration chief methodologist: "Observe State Price Discipline in Calculations for Grain"]

[Text] The editors receive letters from agricultural workers and procurement officials asking for detailed explanations about the existing system of accounts [raschet] for grain. The article below is dedicated to this subject.

The 26th CPSU Congress posed the task of improving price formation in sectors of the national economy as an important tool for plan management, intensifying prices' incentive effect to improve product quality, and strengthening state price discipline.

In their activities, USSR Ministry of Procurement enterprises are involved in numerous accounting relationships, the basic instrument of which is money. For this reason work with prices is an important aspect of economic activities of enterprises, oblast grain product administrations, and state inspectorates for agricultural product quality and procurement, as well as union republic ministries of procurement.

Measures for the organization of interdepartmental control over prices in the USSR Ministry of procurements system are defined in order No 132 of 20 May 1974. The overwhelming majority of all accounts at grain receiving and processing enterprises) except for mixed feed enterprises, where accounts for receipts and prices are kept on electronic computers) are now settled using prices fixed on price lists. In organizing work with prices the most serious attention should be given to the precise conduct of price list operations. These operations include several basic types of documents, primarily price lists (price handbooks) and supplements as well as enforceable enactments on price formation: party and government decrees, methodologies, instructions, and explanations by organs of price administration, the USSR Ministry of Procurement and union republic ministries of procurement on these questions.

A price list is an important state document, since it is the sole legal basis for prices. Accounts between suppliers and purchasers and budget accounts are kept according to price lists, which confirm the legality of the prices used in the accounts.

The USSR Ministry of Procurement, in order to establish a standardized procedure for conducting price list operations and to intensify control over the correctness of price use, which will undoubtedly help improve accounts between kolkhozes, sovkhozes and other suppliers and customers, has ratified an Instruction on the procedures for conducting price list operations in the procurements system. This is an enforceable enactment for union republic ministries of procurement. It establishes standardized rules for conducting price list operations at the ministries themselves, grain product administrations, and at enterprises. The Instruction's basic demands provide for the following: a procedure for the timely delivery of price lists to all elements in the system; the determination of workers responsible for the correct conduct of price list operations at ministries, organizations, and enterprises; an annual inventory of price lists and supplements in order to remove those which have lost their force: the presence of a controlling set of price lists (and supplements to them).

USSR Ministry of Procurement enterprises have been completely supplied with the new Instruction: "On the Procedure for Accounts of Kolkhozes, Sovkhozes, and Other Farms for Grain, Oil Crop Seeds, and Hay Sold to the State", price lists of effective procurement prices, contracts for each attached farm, data on farms' liability for loans in kind, and other superior organization documents essential for operation.

The CPSU Central Committee and USSR Council of Ministers Decree: "On the Improvement of Planning and Economic Incentives for the Production and Procurement of Agricultural Products" provides measures for increasing procurement prices for agricultural products and for establishing markups on them. In order to establish unified state procurement plans and to preserve the existing average level of payments per unit of output, previous markups for above-plan sales have been included in the procurement prices. This increases procurement prices for grain crops, especially for groats and forage crops. Beginning in 1981 farms were paid 26 percent more for corn than in 1980, for peas the increase was 25-36 percent, for forage vetch 50 percent, and for millet 33 percent. Procurement prices for rye have risen by one-third. In order to further expand soybean production their procurement prices have been increased to 350 rubles per ton, or by 35 percent.

The CPSU Central Committee and USSR Council of Ministers decree has made substantial corrections in the procedure for providing incentives for increasing the production and state sales of agricultural products. Instead of the previous markups on procurement prices for above plan sales, it has now been established that during 1981-1985 kolkhozes, sovkhozes, and other agricultural enterprises and associations will be payed markups amounting to 50 percent of the new procurement prices for output which farms deliver to the state over and above the average level attained in the 10th Five-Year Plan. This applies to grain, sunflowers, soybeans, mustard, sugar beets, potatoes, cotton, livestock and poultry, milk and other products. The introduction of a basically new procedure for providing incentives directs farms towards achieving good final results -- the maximum growth in the production and sales to the state of agricultural products.

Payment conditions for kolkhoz and sovkhoz products are also improving in the 11th Five-Year Plan. Beginning in 1981 procurment organizations made all payments for transporting, expediting, and unloading agricultural products.

If products are delivered by kolkhoz or sovkhoz transport vehicle, procurement organizations will compensate farms for costs according to norms and tariffs for that type of transport vehicle. Up until 1981 compensation was made using a standard tariff for motor vehicle transportation, regardless of the type of transportation used.

It is important to note that all new, increased procurement prices correspondingly apply to products which the population sells to the state. According to studies, this year the population will receive an additional 135-140 million rubles. It is worth stating that procurement prices will be increased without making changes in retail prices for agricultural products and goods processed from agricultural raw materials.

Of course, the growth in procurement prices without changes in retail prices will cause the state additional costs and lead to a redistribution of national income and the drain of resources from other sectors of the economy. However, the party and government are consciously doing this, pursuing the goal of stimulating agriculture to increase output and sales to the state and to increase the nation's supply of essential goods.

In order to carry out this CPSU Central Committee and the USSR Council of Ministers decree, the USSR Ministry of Procurement, Ministry of Agriculture, and the USSR State Committee on Prices, upon agreement with the USSR Ministry of Prices have developed and ratified Instructions on the procedure for 1981-1985 payments to kolkhozes, sovkhozes, and other agricultural enterprises and associations. These payments are 50 percent markups over procurement prices for all agricultural output sold to the state in excess of average levels in the 10th Five-Year Plan. The main points of this Instruction with regard to the payment of markups for grain and oil seed sales are as follows:

For 1981-1985 sales to the state of grain, sunflowers, soybeans, and mustard above 10th Five-Year Plan average levels, farms are paid a 50 percent markup over procurement prices. The 10th Five-Year Plan average levels are determined for each farm as the total output, in standard weight [zachetnyy ves] over the 5 year period, divided by 5.

The 1976-1980 average level of grain crop sales to the state is determined for all crops and for each individual one. The repayment of loans in kind is excluded from actual sales. If, during some years farms did not sell grain and oil seeds because of natural calamities or unfavorable weather, the average production level attained is calculated by dividing by five the total grain, sunflowers, soybeans, and mustard sold to the state. For example, if, during the 10th Five-Year Plan a farm sold the state 26,575 tons of grain, but did not sell in 1979 because of unfavorable weather, then in this case the average attained level of grain sales to the state would be calculated by dividing the total quantity of grain sold during the plan by five ($26,575/5 = 5,315$). During the 11th Five-Year Plan the 50 percent markup is paid for grain deliveries exceeding this annual level, i.e. 5,315 tons.

If, during the 10th or 11th Five-Year Plans there was a consolidation or association of farms, then the average levels of grain, sunflower, soybean, and mustard sales of the combined farm is determined through the summation

of average sales levels for each farm. For farms formed during the 10th or current five-year plans as a result of breaking up larger units, the average attained sales level is obtained by dividing the average aggregate level of the broken up farm proportionally into the refined plans for the purchase of grain, sunflowers, soybeans and mustard. The average level of grain, sunflower, soybean, and mustard sales attained in the 10th Five Year Plan remain stable for all years of the 11th. Changes in average levels are allowed only if superior republic, kray, and oblast organs make decisions to change the farms' land use pattern. In such case corrections in the average sales level are made for the volume and assortment of grain, sunflowers, soybeans and mustard proportionally to the size changes in their purchase plan for a given farm. The corrected calculation of the average level is the basis of comparison. The corrected calculation of the average level of grain, sunflower, soybean, and mustard sales to the state attained during the 10th Five-Year Plan for the surpassing of which a 50 percent markup is paid, is made by the farm, rayon state procurement inspectorate, agricultural administration of the ray-ispolkom and state statistical rayon inspectorate on the basis of documents for the sales of these crops to the state.

Payments to kolkhozes, sovkhoses, and other agricultural enterprises and associations of the 50 percent markup over procurement prices for state sales above the average level attained in the 10th Five-Year Plan for grain of all types (excluding buckwheat, millet, beans, and lentils) are made upon the condition of exceeding the average level for grain in general; and for the sales of buckwheat, millet, beans, lentils, mung beans, chick peas for food, and brewing barley are made independently of exceeding this level for grain in general. Total payments of the 50 percent markup for grain crops, sunflowers, soybeans, and mustard are determined on the basis of standard weight and average payments using existing procurement prices including monetary discounts [skidka] and markups for the quality of all types and varieties of crops (with the exception of strong and durum wheat).

The following discounts and markups are taken into consideration when calculating average payments: 15 or 30 percent discounts for low volume-weight wheat and rye; 10 percent markups for the more valuable varieties of grain crops, 100, 70, 20, and 10 percent markups for soft wheat, and 50, 30, and 10 percent markups for strong wheat, when durum wheat is sold; and 5 and 12 percent markups for sunflower seeds with high oil content.

The 50 percent markup does not include the total payments for drying, cleaning, variety markups for varietal seeds, and total discounts and markups for grain and oil seed quality deviation from basic conditions with respect to foreign substances, volume-weight (except for low volume-weight wheat and rye) and infestation by mites.

The 50 percent markup for exceeding the 10th Five-Year Plan average level of brewing barley sales to the state is made in the established manner, based upon actual payments. The 50 percent markup is paid for actual sales of grain mixtures received from farms at their request to be included as sales of fodder barley or other grain crops above the average levels of the 10th Five Year Plan.

All grain, sunflowers, soybeans and mustard sold to the state during 1981-1985 from farms which did not sell these crops to the state in the 10th Five-Year Plan, and which do not have plans for such sales in the 11th, will be paid for at procurement prices with a 50 percent markup. Sovkhozes created on newly introduced agricultural land, and farms which in the 11th Five Year Plan were, for the first time, given plans for state sales of grain, sunflowers, soybeans, and mustard, will for the first three years be paid a 50 percent markup for sales above the purchase plans for these crops. In subsequent years the payment of this markup will be based upon sales of these crops above the average level of the first three years. For farms which are raising soybeans and mustard for the first time the 50 percent markup will be based on a 20 percent increase in procurement prices.

- The basis for the payment of the 50 percent markup on the procurement price of grain, sunflowers, soybeans and mustard sold to the state above the average level of the 10th Five-Year Plan is the agreement act [akt sverki] drawn up by farms and grain receiving enterprises (contractors) and ratified by rayon agricultural administrations of rayispolkoms, rayon statistical inspectorates, and state procurement inspectorates for the rayon. This act covers data on the sales and purchase of these crops above the level attained in the 10th Five Year Plan. The act indicates the average sales level of each grain crop and the other crops, sales above the attained levels, and total 50 percent markup payments. The total sales to the state of these crops above the attained level in the 10th plan is defined as the difference between the volumes sold to the state (which includes plan fulfillment for the first year of the 11th Five-Year Plan) and the average annual level during 1976-1980.

Grain receiving enterprises which have signed contracts with the farms, pay the kolkhozes and sovkhozes the 50 percent markup for the above average sales of these crops. Grain receiving enterprises, receiving grain from farms with which they have not signed contracts provide, at the proper time, contractor enterprises with data on the arrival of grain by crop (accounting card form No 211) from the farm. In cases of farm sales of varietal seeds (within the limits of the plan for the procurement of varietal seeds), after they reach the average level of state sales in the 10th Five-Year Plan, the total varietal markup is computed from the basic cost [osnovnaya stoimost'] of the grain at standard weight, excluding the 50 percent markup for grain sales.

The transfer to farms of the 50 percent markup for 11th Five-Year Plan state sales of buckwheat, millet, beans, lentils, mung beans and chick peas for food purposes, brewing barley, sunflowers, soybeans, and mustard is made at the time the sales of each of these crops rise above the average levels attained in the 10th Five Year plan and simultaneously with the payment of their basic price. For all other grain and pulse crops the markup is paid upon the farms' final sales of grain to the state upon the basis of the agreement act, but not later than 31 December.

These main points on the procedure for the payment of the 50 percent markup for the sales of grain and oil seeds to the state made in the USSR Ministry of Procurement's Order No 209 of 17 July 1981 were included in Instruction No 9-1-79 on the procedure for accounts with kolkhozes, sovkhozes and other farms for grain, oil seed crops and hay sold to the state.

A check of enterprises in the Ukrainian SSR, Belorussian SSR, Uzbek SSR, Georgian SSR, and Tajik SSR showed that in violation of the Instructions, at many enterprises the account certificates on the average levels and the agreement act data on the sales and purchase of output above the average level of the 10th Five Year plan were not signed by state procurement inspectorates and agricultural administrations. Some account certificates and agreement acts were filled out carelessly and have many unwitnessed corrections and no date of document signing.

In violation of the established procedure for paying the 50 percent markup, some grain receiving enterprises made it for the volume of grain exceeding the actual sales above the average level in the 10th Five Year Plan. For example, in 1981 the Kolkhoz imeni Il'ich in Kiev Oblast exceeded the average level of grain sales in the 10th Five Year Plan by only 83.8 tons, including 38.5 tons of buckwheat and 45.3 tons of wheat. The 50 percent markup was paid for 122.3 tons instead of 83.8. As a result of this overpayment the farm received 1,800 rubles.

The checks also revealed improper determinations of the average procurement price of buckwheat, the level of which should be used in calculating the 50 percent markup. Instead of determining payment size on the basis of total buckwheat (including ordinary and high grade) sales volume, the procurement price was computed upon the basis of buckwheat sold above the average level. For example, according to the account certificate the average level of sales to the state attained by the farm in the 10th Five Year Plan was determined to be 58.9 tons; 80.9 tons were actually sold, the markup was not paid for 22 tons, but only for 8.

Some grain receiving enterprises do not pay the markup at the proper time. For example, the Sogaredzhoyskaya Grain Base of the Georgian SSR Ministry of Procurement was two months late in paying 5 farms in the rayon a total of 23,700 rubles for sunflowers sold the state above the average 10th Five-Year Plan level. These shortcomings in accounts with grain suppliers are evidence that some ministries of procurement in union republics have not given the necessary attention to measures intended by the CPSU Central Committee and USSR Council of Ministers Decree: "On the Improvement of Planning and Economic Incentives for the Production and Procurement of Agricultural Products".

A USSR Ministry of Procurement order has outlined measures for eliminating shortcomings found in checks, for raising the level of exactitude made upon managers of kray, oblast, and republic (ASS) grain products administrations, and grain receiving and processing enterprises for the proper conduct of accounts with grain suppliers and for paying them the 50 percent markup on procurement prices for the sales of grain and oil seeds to the state.

It is essential to keep work with prices constantly at the center of attention. In conducting comprehensive reviews and checks of enterprises, questions of the observation of state price discipline should be reflected in legal acts and orders. In order to give practical help in checking the correctness of accounts with grain suppliers, the ministry has developed and issued "Recommendations on the Procedure for Checking the Correctness of Accounts of USSR Ministry of Procurement Enterprises with Suppliers."

Increased state price discipline in accounts of grain receiving enterprises with kolkhozes and sovkhoses for grain and oil seeds sold to the state will assist in the timely and accurate implementation of all the requirements laid out in the USSR Ministry of Procurement Instructions No 9-1-79 (ratified by Order No 55 of 13 February 1979, as well as the Instructions of the USSR Ministry of Procurement, Ministry of Agriculture, and State Committee on Prices (ratified 3 July 1981) and supplements to them.

COPYRIGHT: "Zakupki kol'skokhozyaystvennykh produktov", 1983.

11,574

CSO: 1824/238

AGRO-ECONOMICS AND ORGANIZATION

SERVICES, FUNCTIONS OF BELORUSSIAN APO SYSTEM DISCUSSED

Minsk SEL'SKAYA GAZEYA in Russian 2 Mar 83 p 2

[Article by G. Kovalenko, deputy chairman of the Committee on Problems of the Agroindustrial Complex of the Presidium of the BSSR Council of Ministers:
"By Common Efforts -- For the Planned Goal"]

[Text] The successful implementation of the country's food program will depend to a great deal upon further development of the productive forces of agriculture, raising the operational efficiency of the processing industry and the organizations included in the agricultural complex and improvements in the production relationships. The methods for administration and planning, the means for stimulation and the management mechanism must all exert an active influence on growth in labor productivity. This is precisely the purpose of the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Improving the Administration of Agriculture and Other Branches of the Agroindustrial Complex."

Special attention is being given to strengthening the rayon level of administration, which must unite the efforts of the kolkhozes and sovkhoses and their partners and subordinate their activities in behalf of the common goal. Its chief task -- to achieve a high level of production for the agricultural products. And this requires efficient coordination among all partners and the skilful maneuvering of labor resources, equipment and other production resources.

A great amount of organizational work has been carried out throughout the republic in this regard. In December of last year, during sessions of the rayon and oblast soviets of people's deputies, rayon and oblast agroindustrial associations were created and the councils of these associations formed. The Committee on the Problems of the Agroindustrial Complex of the Presidium of the BSSR Council of Ministers was approved and work was completed on the development and approval of statutes concerning rayon and oblast agro-industrial associations in conformity with the standard statutes.

Included in the structure of the rayon agroindustrial associations are the agricultural administrations of rayon executive committees, kolkhozes, sovkhoses, enterprises and organizations of Bel'sel'khozkhimiya, the rayon associations of Goskomsel'khoztekhnika, Bel'sel'energo, and also the

construction organizations of the BSSR Minsel'stroy /Ministry of Rural Construction/, flax plants, fishing farms, forestry farms, a number of road servicing administrations of the BSSR Mindorstroy /Ministry of Highway Construction and Maintenance/ and other enterprises and organizations directly associated with agriculture.

On the average for the republic, the council of a rayon agroindustrial association has been approved for a structure which includes 42 individuals, more than one half of which are kolkhoz chairmen or sovkhoz directors. The new agricultural organs are to be administered by intelligent, skilled and experienced specialists. Thirty nine agronomists, 31 zootechnicians, 25 engineers, 12 economists and 10 individuals representing other specialties have been elected to serve as the chairmen of the councils of the rayon agroindustrial associations. Of the 117 chairmen of RAPO /rayon agroindustrial association/ councils, 64 have been working as the chiefs of agricultural administrations for 3-5 and more years.

Typically, many of the republic's RAPO's, without delay and without awaiting completion of the organizational period, proceeded to carry out practical work concerned with the business-like merging of partners. Their work is distinguished by a high level of efficiency and the use of a creative approach in developing the style for administering the agricultural complex under the new conditions. The committee of the Presidium of the BSSR Council of Ministers is endeavoring to study and to disseminate all positive developments arising from the work of those agroindustrial associations already created.

For example, let us take a particular problem. Quite often, one sees long lines of motor vehicles at the flax plants, peat and briquette, sugar, mixed feed and other enterprises. Valuable time is being lost and the drivers are being paid on an hourly wage basis. Both the state and the private interests of the drivers are suffering. The Vileyskiy Rayon RAPO resolved to change this situation. Specialized mixed feed cartiers from farms were transferred over to the balance of raysel'khoztekhnika. The time for issuing the mixed feed was determined jointly with the board of directors of the mixed feed plant for its detachment. The Marketing Department, in accordance with an order from the RAPO, issues instructions to the drivers with regard to the destinations for the feed. The combining of the efforts of three departments -- Ministry of Agriculture, Goskonsel'khoztekhnika and the republic's Minzag /Ministry of Procurements/ -- has resulted in regulation of the work of the motor transport facilities. The kolkhozes and sovkhozes are being supplied with mixed feed from the funds allocated in a more uniform manner and in the required assortment, the working time of the drivers is being used in a more efficient manner and less fuel is being consumed. Centralized shipments of mixed feed have been organized very well at the Slutskiy RAPO. Typically, here the remote and economically weak farms are being served first of all.

Detachments for the shipping of flax products are being created on a similar basis at the Shklovskiy, Glubokskiy and Lyakhovichskiy RAPO's. In this instance, enterprises of the BSSR Minlegprom /Ministry of the Light Industry/ serve as the partners of the farms. The enterprises and organizations of BSSR Minplodooovoshchkhov /Ministry of the Fruit and Vegetable Industry/, BSSR Minleskhov /Ministry of the Forestry Industry/, Belmezhholkhozstroy and land reclamation organizations are participating actively in the work of the newly

created organs. As a result of joint efforts within sel'khoztekhnika, detachments are being created for procuring feed and filling up haylage towers and at organizations of Belmezhholkhozstroy -- subunits for the construction of roads and at forestry farms -- teams for the preparation of wood in response to orders from kolkhozes and sovkhoses.

As is well known, today all responsibility for organizing the repair and technical servicing of kolkhoz and sovkhos equipment rests with BSSR Goskameel'khoztekhnika. In this regard, the initiative displayed by the Minsk RAPO is deserving of maximum support. The essence of this initiative -- a group of zonal engineer-technologists consisting of one specialist for every 5-6 farms has been formed within raysel'khoztekhnika. Within his zone, an engineer technologist is responsible for ensuring the planned readiness of equipment, placing it in storage, providing the farms with the required spare parts, units and assemblies and turning the equipment over for capital repair work. A zonal engineer-technologist has radio-equipped vehicles at his disposal and also machines for making the rounds and taking care of repair work problems. An expert diagnostician is subordinate to him. This individual is responsible for correcting defects, adjusting the hydraulic and fuel machinery and electrical equipment and also for carrying out the planned diagnosis of machines, units and assemblies. Specialized teams operate in close contact with the zonal engineers. These teams carry out technical servicing and current repair work on those farms where an appropriate base is lacking or there is a shortage of repair workers and expert trouble-shooters.

What has been the result of the introduction of this form of service in the rayon? First of all, success was achieved in uniting the interests of the farms and the sel'khoztekhnika workers, since the wages of a zonal engineer are dependent upon his achieving planned readiness of the equipment pool at his assigned farms. Secondly, there is no need for the engineers of kolkhozes and sovkhoses to concern themselves with "acquiring" the needed spare parts or of diverting transport vehicles for this purpose. They are now able to devote more time to organizing highly productive use of the equipment, the planned servicing of the machines, educational work and retraining of the machine operators. As a result, for example, the coefficient of readiness for all of the principal types of available equipment in Minsk Rayon had reached the required level by 21 February. And the readiness of the powerful tractors is one of the highest in the republic.

And here is another example of an intelligent and thrifty approach to the work. At the Mogilevskiy RAPO, a brigade was organized, attached to the raysel'khoztekhnika, for the preparation of machines and assemblies which had been written off. The machines are not only cut open by means of autogenous welding, as has often been done in the past, but they are also disassembled, with parts which are still suitable for work being placed back in operation and those which require restorative work -- are restored and added to the rayon's exchange fund. The brigade operates on the basis of a single job order. The computations indicate that this year 15,000-20,000 rubles worth of parts will be restored in this manner. Similar brigades have now been created in many rayons in Mogilev and other oblasts throughout the republic.

In the complex of measures aimed at raising the efficiency of agricultural production and strengthening cost accounting, considerable importance is

attached to converting over to progressive forms for labor organization and wages. Here we have in mind the need for creating on each farm economic and organizational conditions which, on the one hand, will stimulate high quality and productive labor, initiative and enterprise and, at the same time, exert a very direct influence on the wages of those who disrupt discipline and tolerate carelessness and waste in their work.

At the present time, an increasing number of brigades, teams and other production subunits are mastering the brigade contract method. During this current sowing campaign, 675 brigades in Minsk Oblast and 376 brigades in Vitebsk Oblast will operate on the basis of contracts and throughout the republic as a whole 1,750 such brigades have been created. The task of the rayon agroindustrial associations in the republic consists of ensuring that a minimum of one collective operating on the basis of a brigade contract is created at each kolkhoz and sovkhos this year in farming, animal husbandry, construction and other branches. And experience is available in this regard throughout the republic.

The agricultural branch will solve the task assigned to it in a more rapid manner if more stable conditions are available for retaining personnel in the rural areas. The work of preparing for this year's spring sowing campaign has revealed that there is a shortage of 10,000 or more machine operators in Vitebsk, Minsk and Mogilev Oblasts alone. The task of obtaining such operators from other organizations (and this must be done at the present time), particularly from industrial enterprises -- is a necessary measure and one which is not sufficiently effective. And although this might be the solution for personnel in the mass professions, it is nevertheless impossible to replace temporarily such specialists as veterinary doctors and bookkeepers, positions which still have not been established at the republic's kolkhozes and sovkhoses.

There is one solution -- create good socio-domestic conditions in the rural areas, construct good quality housing and roads and improve cultural, municipal, medical and domestic services, as required of us in the decisions handed down during the May (1982) Plenum of the CPSU Central Committee. During 2 years of the current five-year plan, the plans for housing construction in the rural areas are being fulfilled using the contractual and economic method. At first glance, it would appear that there is no problem here. But our construction work is still quite limited -- an average of 3.8 apartments per farm annually and the minimum requirement -- 10-12 apartments for each kolkhoz and sovkhos, or three times more.

A comprehensive examination of this important concern of the rural areas forces the conclusion that the efforts and capital investments of the Ministry of Agriculture and the BSSR Minplodoovoshchkhos alone are clearly insufficient. The oblast agroindustrial associations and oblast executive committees must organize rural housing-construction cooperatives in the rural areas on a more extensive scale and they must boldly introduce proposals for the construction of housing at economically weak farms in volumes of up to 10 percent of the housing being erected in municipal areas. It bears emphasizing that the party and government not only require but in fact they are creating favorable conditions for the construction of housing in the rural areas.

Those who build their own homes in the rural areas are issued loans for the construction of private homes in amounts up to 3,000 rubles, with repayment to be carried out over a period of 10 years commencing with the 5th year following the completion of construction of the home. Even greater privileges are extended to the members of rural housing-construction cooperatives. The advantages of such an approach for solving this problem in actual practice have been revealed in Nesvizhskiy Rayon. Here, at the Novaya Zhizn' and 17 September Kolkhozes, housing-construction cooperatives have been created. They have brought together many individuals desiring to improve their housing conditions.

Other privileges established by legislation are also available, particularly for machine operators of kolkhozes and sovkhoses, Goskomsel'khoztekhnika and land reclamation organizations.

The task of the rayon agroindustrial associations consists of acquainting a broad range of rural inhabitants with the conditions for entering or joining construction cooperatives and furnishing effective assistance in the creation and operation of rural ZhSK's /housing-construction cooperative/.

It is believed that the BSSR Ministry of Agriculture must thoroughly examine once again the distribution of capital investments for the remaining years of the five-year plan, such that maximum use can be made of them for constructing good quality homes in the rural areas. The other partners of the agricultural complex must not remain aloof off to the side. We are of the opinion that more private homes must be built at the support centers for a settlement, that is, closer to the areas where the assemblers, builders and machine operators are directly engaged in work.

The first serious test for the new organs of administration and especially for the rayon agroindustrial associations includes preparing for the spring sowing work and successfully completing the livestock wintering period. We are waiting for the newly created organs of administration to bring about a radical change in the organization of agricultural production and to improve the new conditions for their style of work. All incidents of excessive administration, pressure from on high and infringement of the rights of kolkhoz and sovkhos leaders and specialists in matters falling within their competence must be eliminated. Every attempt must be made to ensure that the farm leaders and specialists employ a creative work style and display independence, industry and the ability to take into account the local conditions and opportunities.

All work by the rayon and oblast agroindustrial associations must be aimed at intensifying control over implementation of the obligations undertaken, improving the work of all services of the agroindustrial complex, achieving high final results and successful fulfillment of the republic's food program.

7026

CSO: 1824/270

GRAIN CROP PROTECTION MEASURES SET FORTH

Moscow ZASHCHITA RASTENIY in Russian No 11, Nov 82 pp 50-52

[Article by A.Ye. Chumakov, Yu.D. Radchenko, T.S. Batalova, T.S. Gladkina, Zh.V. Aspidova and G.A. Pukinskaya, scientific workers at the All-Union Institute for the Protection of Plants: "System for Protecting Grain Crops (European Portion of USSR)"]

[Text] The system for protecting grain crops (wheat, rye, barley) for the European portion of the USSR sets forth the principal measures aimed at preventing crop losses caused by pests, diseases and weeds. The system was prepared for non-irrigated lands, taking into account recent data on the spread and degree of harm caused by the predominant insects and causative agents of diseases, the agricultural practices employed for grain crops and the requirements of phyto-sanitation. The pesticides recommended in this system conform strictly with the economic thresholds for damage inflicted and the existing norms for specific regions.

A typical characteristic of this system is its lability. Use is made of individual measures or their elements depending upon the technology employed in the cultivation of a crop, the degree of intensification of agricultural production, changes in the external environment and a number of other factors concerned with the specific phyto-sanitation situation during the year. Against the background of the overall agricultural practices, special protective measures are carried out by stages of organogenesis or phases of plant development, while taking into account the stages of the harmful organisms.

All of these measures are differentiated within the system for three zones in the European part of the USSR: 1 - the Baltic region, Belorussia, northwestern, central and Volgo-Vyatsk regions of the RSFSR, Sverdlovsk and Perm Oblasts; 2 - central chernozem and north Caucasus regions of the RSFSR, the Ukraine, Moldavia and the Trans-Caucasus; 3 - Volga and Urals regions (excluding Sverdlovsk and Perm Oblasts).

System of Measures for Protecting Grain Crops

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
Grain Crop Sowings		
Following harvesting of crop	Pressing and hauling of straw from a field, stacking it, mowing shoulders of roads	Eliminating powdery mildew and rust in fallen fruit. 1, 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
Prior to sowing of winter crops	Removal of stubble on fields where there is no danger of soil erosion	Extermination of grain flies, grain sawflies. 1, 2, 3.
	Application of complete mineral fertilizer according to existing norms	Raising disease resistance of plants. 3.
	Plowing of soil for winter fallow using plow with a skim coulter	Eliminating causative agents of diseases and harmful insects in crop residues. 1, 2, 3.
	Chemical disinfection of seed using ethylmercuric chloride seed fungicide (1 kg per ton)*, hexatiuram (2 kg per ton) or pentatiuram (2 kg per ton).	Combat external types of smut and causative agents of helminthosporiosis. 1, 2, 3.
	Seed treatment with gammahexane (2 kg per ton)	Disinfection of seed obtained from centers of dwarf smut. 2.
Sowing of winter crops	Chemical disinfection of seed using vitavaks (3-3.5 kg per ton) or benomil (fungazol 3 kg per ton) or vitavaks --200 (3 kg per ton) or single-phase thermal disinfection	Combat wheat and barley smut and root rot. 1, 3.
	Strict observance of optimum sowing periods.	Ensuring minimal contamination of plants by diseases and pests, raising disease resistance of plants. 1, 2, 3.
At moment of sowing	Application with seed of granulated superphosphate at rate of 50-100 kg per hectare	With deficit of phosphorus in soil, to raise disease resistance of plants. 1, 2, 3.
	Application to rows, together with seed, of 5% granulated bazudin (50 kg per hectare), or 5% granulated volaton (75 kg per hectare), or 2% granulated gamma-isomer CKhTsG /hexachlorocyclohexane/ (50 kg per hectare)	When planting winter crops following stubble predecessor crops colonized by the grain beetle. 2.
Prior to appearance of rye and winter wheat seedlings	Spraying of soil using simazine (0.25 kg per hectare)	Contamination by weeds resistant to 2.4-D and 2M-4X (seedlings of scentless mayweed and goosegrass). 1.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
Winter crop seedlings (in autumn)	Use of bait from grain and wheat or sunflower achenes with gly-fluorine (for 100 kg of grain, 20% water, 0.4% gly-fluorine and 0.8% vegetable oil; for achenes -- 0.6% gly-fluorine) or with zinc phosphide (for 100 kg of grain 3-5% of the preparation, 2-3% vegetable oil). Spread manually using ground dispensers at rate of from 0.5 to 3.0 kg per hectare.	Combat field voles and also mice with a density of 10-15 or more colonies (50-60 nests) per hectare. 1, 2, 3.
	Use of bacterodenticide on tracts where use of the chemical method is dangerous for useful fauna	Ibid.
Seedlings -- tillering of winter crops	Spraying of sowings with 80% chlorophos (1 kg per hectare) or 20 percent metaphos (1.5 liters per hectare).	Where there is a high number of hessian and Swedish flies. 1, 2, 3.
	Spraying of sowings with 60% or 40% bazudin (1.5-1.8 liters per hectare or 2-2.5 kg per hectare), 50% volaton (2 liters per hectare), 40% metaphos (0.5-1 liter per hectare) or 16% gamma-isomer GKhtsG (1.5-2.5 liters per hectare).	When sowing is colonized by larvae of grain beetle. 2.
Following winter crop seedlings	Drawing off of water which accumulated in low areas of relief, by means of small channels	Reduction in contamination of winter crops by sclerotinosis and snow mould
	When the average daily air temperature has dropped to 2-4°, a top dressing of ammonium nitrate (0.75-1 quintal per hectare) for the winter sowings	
Autumn and winter	Combating mouse-like rodents in haystacks and ricks of straw using dry grain bacterodenticide (5-30 grams per cubic meter or amino-osseous (0.5-1 gram per cubic meter)	Winter propagation of rodents. 1, 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
	For combating field mice, add 1% ratindan or 2% zoocumarin to bacterodenticide.	When there is considerable propagation of field mice. 1, 2, 3.
Winter period	Snow retention out on the fields	Raise the resistance of the plants to root rot. 2, 3.
	Air-thermal heating of seed	Raise the resistance of the plants to rust and fusariosis. 1, 2, 3.
3-4 months prior to sowing	Chemical disinfection of seed that is quality standardized in terms of moisture content using pentatium (2 kg per ton), hexatium (2 kg per ton), PKhNB (2 kg per ton), pentatium (2 kg per ton), mercury-benzene (1.5 kg per ton).	Presence of infection by rye and covered smut and the causative agents of root rot. 1, 2, 3.
	Treatment of seed using gammahexane (2 kg per ton)	When there are more than 70 click beetles per square meter
Not more than 1-2 months prior to sowing	Chemical disinfection of seed using vitavaks (2.5-3 kg per ton) or vitavaks - 200 (3 kg per ton) or benomil (fundazol 3 kg per ton) or single-phase (double-phase) thermal treatment of seed at elite seed production farms.	Against a complex of smut fungi, especially in the presence of wheat smut. 1, 2, 3.
	Treatment of seed using tur (3-4 liters per ton), simultaneously with chemical disinfection	Where there is danger of the plants lodging or enzyme-mycotic exhaustion of grain. 1, 2.
	Treatment of oat seed using formalin (semi-dry chemical disinfection) or fundazol (3 kg per ton)	
For 2-3 weeks prior to sowing	Surface tilling of soil with planting of wheat following wheat	Raising resistance of plants to root rot. 2, 3.
For 30 days prior to sowing	Adding tur (3-4 liters per ton) and microelements to disinfectants when carrying	Preventing lodging of plants, raising fungicide activity of disinfectants. 1.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
	out chemical disinfection with moisture: blue vitriol (0.003%), ammonium molybdate (0.05%) or lithium chloride (0.05%).	
	Chemical disinfection of seed (mainly barley) using vitavaks (3 kg per ton) or benomil (fungozol, 2.5 kg per ton)*** or single double-phase thermal disinfection of seed at elite seed production farms.	The presence in the seed of internal (deep) smut infection and fusariosis. 1, 2.
	Seed treatment during chemical disinfection or using additionally solutions of microelements: blue vitriol (0.003%), ammonium molybdate (0.05%), boric acid (0.05%), zinc sulphate (0.05%), cobalt sulphate (0.03%) or lithium chloride (0.01%).	When there is threat of damage by rust or powdery mildew on soils marked by a deficit of microelements. 2, 3.
Early in the spring, with thawed patches on 50% of the area	Accelerate thawing of snow in areas where it has accumulated near forest strips, by scattering peat or ash.	Reducing development of snow mould and sclerotinosis
Immediately following disappearance of snow	Withdrawal of thaw waters from low areas of relief by means of small channels	Reduction in development of snow mound and sclerotinosis. 1.
After disappearance of snow	Application of mixture of super-phosphate (2-3 quintals per hectare) with potassium chloride (1 quintal per hectare) and zinc sulphate (0.2-0.5 quintals per hectare) on elite sowings of spring crops	For a deficit of nutrients and microelements in the soil and in the event of a threat of mass development of aphids, powdery mildew and rust. 2, 3.
	Early spring harrowing on tracts not subject to wind erosion	Crowded sowings, strong damage by rust and powdery mildew; reduction in development of sclerotinosis and typhulez. 1, 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
	Top dressing for winter crops of superphosphate (2 quintals per hectare), potassium chloride (1 quintal per hectare), ammonium nitrate (0.75-1 quintal per hectare), with subsequent harrowing	For weakening of seedlings after wintering in order to raise plant resistance against a complex of diseases and pests and where there is danger of enzyme-mycotic exhaustion of the grain. 1, 2, 3.
After removal of snow during period of applying top dressing to winter wheat and rye	Application of 10% granulated butyl ester 2.4-D (10-12 kg per hectare) in a mixture with granulated ammonium nitrate (up to 2 quintals per hectare)	When sowings contaminated by weeds which are resistant to 2.4-D. This also includes scentless mayweed. 1, 2.
After mass awakening of susliks	Catching of susliks in traps.	For a population density of more than 1 suslik per hectare. 2, 3.
	Use of grain bait with gly-fluorine (for 100 kg of oats and 15 liters of water, 0.5 kg of gly-fluorine, 1 liter of vegetable oil) or with zinc phosphide (for spotted susliks -- for 100 kg of oats, 10 kg of zinc phosphide and 3 kg of vegetable oil; for small suslik -- for 100 kg of oats, 15 kg of preparation and 4 kg of oil). Bait is scattered about nests manually or using ground dispensers, at rate of 0.5 to 1.5 kg per hectare depending upon density of nests.	For a density of 5 or more susliks (more than 10-15 inhabited nests) per hectare. 2, 3.
	Combating mouse-like rodents using same methods as for susliks	For a density of 10-15 or more colonies (50-60 inhabited nests) per hectare. 1, 2, 3.
In spring, during winter wheat and rye tillering phase	Spraying with ammonia salt 2.4-D (0.6-1 liter per hectare of active agent) or butyl ester (0.3-0.5 liters per hectare of active agent); consumption of liquid for ground treatment of 200-300 liters per hectare, for aviation treatment -- 25-50 liters per hectare.	For average and strong contamination by annual and dicotyledonous weeds. 1, 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
	Spraying of 40% diapren (3-5 liters per hectare), dozanex (3-5 kg per hectare, 48% bazagran (2-4 liters per hectare), with the latter being used to treat wheat with an undersowing of clover	For sowings which are mainly contaminated by weeds which are resistant to 2.4-D and 2M-4X (species of buckwheat, hemp nettle, corn spurry, scentless mayweed). 1, 2, 3.
Winter wheat tillering phase	Spraying a mixture of lentrrel (0.05-0.2 liters per hectare) with ammonia salt 2.4-D (0.8-1 liter per hectare)	For sector contaminated mainly by species of sowthistle. 1, 2, 3.
Prior to sowing of spring crops	Early spring cover harrowing in two tracks and pre-sowing cultivation	Raising resistance of plants to root rot and other diseases. 3.
Sowing of spring crops	Strict observation of optimum sowing periods	Ensuring minimal damage to plants by diseases and pests. 1, 2, 3.
Following sowing of spring crops	Packing of soil	Obtaining complete, healthy and disease resistant seedlings. 3.
Prior to wheat and barley seedlings	Spraying of triallat (2-4 liters per hectare) with immediate placement of herbicide in soil using light harrows to a depth of 3-5 cm.	When sowings are contaminated by wild oats to average or strong degree. 3.
Presence of 2-3 leaves on barley or spring wheat	Spraying of sowings with dozanex (3.1-5.5 kg per hectare)	Contamination of tract by weeds resistant to 2.4-D and 2M-4X and in presence of scentless mayweed. 1, 2.
Phase of 2-3 leaves prior to leaf tube extension	Spraying of spring wheat with suffix (1-1.5 kg per hectare of active agent)	When contamination caused mainly by wild oats. 3
Tillering phase for oats, barley and wheat	Spraying with ammonia salt 2.4-D (0.6-1 liter per hectare of active agent) or butyl ester (0.3-0.5 kg per hectare of active agent), 2M-4X (1-1.5 kg per hectare of active agent); liquid consumption for ground treatment of 200-300 liters per hectare, for aviation treatment -- 25-50 liters per hectare.	For average and strong contamination by annual dicotyledonous weeds. 1, 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
	Spraying with dailen (1.75-2.25 liters per hectare), diamat-D (2.5-3.9 kg per hectare) or 2M-4XP (4-6 liters per hectare)	When sowings contaminated mainly by weeds resistant to 2.4-D and 2M-4X (species of buckwheat, hemp nettle, corn spurrey, goosegrass). 1, 2, 3.
Tillering phase for barley and spring wheat	Spraying of sowings with diapren (2.5-3.75 liters per hectare)	When tract contaminated mainly by weeds resistant to 2.4-D and 2M-4X. 1, 2, 3.
	Spraying mixture of lontrela (0.05-0.2 kg per hectare) with amino salt 2.4-D (0.6-1 liter per hectare).	Against sowthistle and other dicotyledonous weeds (species of buckwheat, hemp nettle, scentless mayweed). 1, 3.
Tillering phase for spring grain crops and for clover -- development of 1st triple leaf	Spraying of bazagran (2-4 liters per hectare); consumption of working liquid 300-600 liters per hectare	Contamination by dicotyledonous weeds resistant to 2.4-D and particularly scentless mayweed. 1, 2, 3.
Tillering phase for spring wheat (during period of formation of 2-4 leaves on the weeds)	Spraying with illoksan (3-4 liters per hectare)	Contamination by annual weeds (species of bristle grass, Japanese barnyard millet, wild oats). 1, 2.
End of tillering -- commencement of shooting stem extension	Spraying of sowings with 80% chlorophos (1-1.2 kg per hectare), 20% or 40% metaphos (1.5 or 0.75 liters per hectare)	When the number of wintering shield bugs is more than 2 specimens per square meter for winter crops and 1.5 specimens per square meter for spring crops. 2, 3.
End of May - June	Catching young susliks in traps after settling in crops.	For any density of nests. 2, 3.
	Use of grain bait with gly-fluorine (for 100 kg of oats 20 liters of water, 0.5 liters of preparation and 1 kg of oil)	For a population density of more than 5 susliks (25-50 inhabited nests) per hectare. 2, 3.
Shooting stem extension -- heading	Spraying of sowings with 40% or 20% metaphos (0.5-1 or 1-2 liters per hectare).	For an increase in the number of leaf beetles. 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for its Use, Zone
	Spraying with 40% phosphamide (0.5-1 liter per hectare or 3.5% phozalon (3-3.5 liters per hectare for winter wheat only)	When the number of greenbugs is more than 10 specimens per ear. 1, 2, 3.
At end of stem extension and prior to heading	Leaf-feeding top dressing of phosphorus-potassium fertilizers: potassium chloride (8 kg per hectare) and 14-19% super-phosphate (7 kg per hectare) for 100 liters per hectare of working liquid	For lowering the harm caused by rust, powdery mildew and enzyme mycotic exhaustion of grain. 1, 2, 3.
Summer, with appearance of initial pustules of brown rust	Aviation spraying of seed sowings of wheat using 80% sineb (3-4 kg per hectare) or polycarbatsin (5 kg per hectare) in a mixture with ammonium nitrate and urea (5 kg per hectare), with working liquid consumption of 20 liters per hectare; bayleton (1 kg per hectare, water 50 liters per hectare or anilat (10 kg per hectare, water 100 liters per hectare)	Upon threat of an increase in rust. 2, 3.
July - August	Release of trichograms on fields to be used for winter crops (40,000 specimens per hectare in two periods	Commencement and mass laying of eggs by winter moth. 2, 3.
Blossoming - ripening of grain	Spraying of sowings with 80% chlorophos (0.75-2 kg per hectare, 20% or 40% of metaphos (1-2 liters per hectare) or 0.5-1 liter per hectare), 50% metation* (0.7 liters per hectare)	When the number of pentatomid larvae is more than 10 specimens per square meter. 2, 3.
Milky ripeness - beginning of vary ripeness of grain	Spraying of sowings with 80% chlorophos (1.2 kg per hectare), 20% or 40% metaphos (1.5 liters per hectare or 1 liter per hectare), 50% metation* (1 liter per hectare)	When the number of pentatomid larvae on sowings of strong valuable and spring wheat is 2 or more specimens per square meter and on sowings of common winter wheat -- more than 5 specimens per square meter. 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
Milky ripeness - waxy ripeness of grain, but no later than 15 days prior to harvest.	Spraying of sowings with 80% chlorophos (1.5-2 kg per hectare) or 20% metaphos (1.5-2 liters per hectare) for perimeter and extensive treatment	When the number of corn weevils is 3-5 specimens per square meter. 1, 2, 3.
During growing season	Combating weeds along edges of fields, on forest strips and along edges of forests prior to blossoming of weed plants	Eliminating centers of infection by rust, powdery mildew and virus and other diseases. 2, 3.
Prior to harvesting crop	Disinfection of walls and ceilings of seed storehouses using 1% solution of formalin (1:40), 16% GKHTaG (2-2.5 grams per square meter), aktellik (0.5 grams per square meter), ambush (1.2 grams per square meter) or volaton (0.3-0.4 grams per square meter)	Elimination of causative agents of diseases and stored grain pests. 1, 2, 3.
Annually	Creation of carry-over seed fund for regionalized varieties	Ensuring availability of high quality seed, maneuvering of group of varieties distinguished by resistance to diseases and pests. 1, 2, 3.
	Growing grain crops in a crop rotation plan with an interval of not less than 3 years.	On fields contaminated by oat and wheat nematodes. 2, 3.
	Use of seed for regionalized varieties which are resistant to or tolerant of diseases and pests in accordance with the recommendations of Gossortset' /State Strain Testing Network/.	Ensuring less damage to crops caused by harmful organisms. 1, 2, 3.
Fallow Fields		
End of May - beginning of June	Cultivation of early and bare fallow to a depth of 14-16 cm, in the face of a deficit of moisture and with subsequent packing of the soil	During years marked by a raised number of corn weevils. 2, 3.
July - August	Release of trichograms (40,000 specimens per hectare in two periods)	Commencement and mass laying of eggs by winter moth. 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
Immediately following harvesting of grain crops	Removal of stubble on fields designated for fallow	Colonization of fields by winter moth, corn weevils, grain beetle, voles and mice. 2, 3.
12-15 days following harvest	Deep plowing with skim coulter	Strong damage to plants caused by rust and virus diseases, powdery mildew and root rot. 2, 3.
Throughout summer	Spraying with amine salt 2.4-D or butyl or octyl ester (1.6 kg per hectare of active agent; working liquid consumption of 300-400 liters per hectare).	For curtailing mechanical loosening of soil. 1, 2, 3.
Throughout summer and autumn	Maintaining bare fallow in weed-free condition	Presence on crop rotation fields of winter moth cocoons -- more than 1 specimen per square meter. 2, 3.
In summer, in behalf of rye sowing	Spraying of growing weeds (quack grass, sowthistle and others) with raundap (4-10 liters per hectare)	For contamination mainly by perennial weeds. 1, 2, 3.
In autumn, in behalf of spring grain sowings	Ibid	Ibid
Other Lands		
In spring (after mass awakening of susliks)	Use of grain bait with gly-fluorine or zinc phosphide on virgin land and perennial grass sowings located near (up to 500 meters) grain crop sowings	For a density of more than 20-30 inhabited nests (more than 10 susliks) per hectare. 2, 3.
	Priming of norms for ammonia liquor, catching with traps	For any density of nests. 2, 3.
In spring	Use of grain bait with gly-fluorine or zinc phosphide and also bacterorodenticide on perennial grass plantings in vicinity of grain crop sowings	For a density of 25-30 colonies of mouse-like rodents (150-200 inhabited nests per hectare. 1, 2, 3.

(Table continued...)

Period of Execution	Measures and Technique Employed	Purpose of Measure, Conditions for Its Use, Zone
	Eradication of barberry bushes at a distance of 500 meters from rust. 2. sowings by uprooting; spraying of bushes during period of full foliation using butyl ester (4-5 kg per hectare of active agent).	Elimination of infection by stem
In autumn	Use of grain bait with gly-fluorine or zinc phosphide and also bacterodenticide on perennal grass sowings in vicinity of grain crops sowings.	For a density of 15-20 colonies of mouse-like rodents (more than 100 nests) per hectare. 1, 2, 3.

* Differentiated in the absence of loose smut.

** A microelement mixture is not employed when use is made of benomil (fundazol)

*** On fields where there is the threat of mass development of fusarial root rot.

**** For experimental-production use.

COPYRIGHT: Izdatel'stvo "Kolos", "Zashchita rasteniy", '82

7026

CSO: 1824/264

TILLING AND CROPPING TECHNOLOGY

CONTRIBUTIONS OF GRAIN INSTITUTE IN SHORTANDY

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 12, Dec 82 pp 40-42

/Article by V. Demidova, Kazakh SSR: "Developed in Shortandy"/

/Text/ One day during a dry year Altay kolkhoz members, not being able to store fodder for livestock, left for the Ukraine in search of straw. They received straw, but people were interested to know: "Are our guests without fodder because they do not use the soil protective farming system on their fields?" "Why this system if there is a drought?" the peasant delegates were surprised. "Because it is a reliable shield not only against wind and water erosion, but against drought as well. If you learn to use this system, you will have both a harvest and fodder. It is simpler for you to go once to Shortandy for science than during every drought to us, across the entire country, for straw."

Shortandy in Tselinograd Oblast in Kazakhstan is the address of the All-Union Scientific Research Institute of Grain Farming, where once the new system of farming was born and from where it advanced first to Kazakhstan and then to many other fields in the country, "conquering" all in all almost 44 million hectares. In Russia its targets are as follows: Nonmoldboard soil cultivation is carried out on 18 million hectares, sowing with antierosion seeders, on 15 million hectares, strip placement of fallow and areas sown with grain crops, on 1,500 hectares and slot sowing on fallow, on more than 1 million hectares.

Those whose fields have suffered from wind erosion or drought and who search for ways of increasing the yield go to the institute and its experimental farm. Every year there are more and more followers of the system, which the institute's scientists continue to improve. It has many advocates and defenders, but also opponents. Why has it now been introduced on the vast territory of Kazakhstan, while in other Russian oblasts it is only beginning to make its way? Not only because the institute is here. Kazakhstan virgin land workers from bitter experience saw to what an annual replowing of land leads. The farming system developed by scientists headed by Aleksandr Ivanovich Barayev, academician of the All-Union Academy of Agricultural Sciences imeni V. I. Lenin, helped to a great extent to stop dust storms and to transform the republic into a strong grain base. During the years of the 10th Five-Year Plan Kazakhstan four times stored more than 1 billion poods of grain in the homeland's bins. Is this not a proof? And for the most distrustful--here they are, the

experimental crop rotation fields on 1,000 hectares established on the institute's experimental model farm almost 20 years ago. One-half of every field is tilled with plows and the second half, with subsurface cultivators. Cultivations are alternated. Each time, where subsurface cultivators pass, the spring wheat harvest is much higher. The drier the year, the more noticeable the difference.

On fields where stubble is left more snow is accumulated and soil freezes at a smaller depth in winter and thaws out earlier in spring. Nevertheless, during some years when drought overtakes the crops in June and during the first 10-day period in July, the upper layer dries up inevitably. Then all the hope is that plants will survive through embryonic roots, which develop at a bigger depth than roots from the tillering node. This means that deep soil horizons must be moistened. This also requires the performance of a whole system of measures, including the accumulation of moisture by a snow ridger, cultivation with slitters and scattering of straw, which inhibits moisture evaporation, over fields. For this a special attachment to combines making it possible to cover the field with a uniform straw layer during the threshing of swaths was made on the experimental model farm. In autumn the field is well tilled with a subsurface cultivator and in spring, in order that straw may not be mixed with soil, it is best to use the KPE-3.8 cultivator.

In the last 8 years the fields of the experimental farm have been subjected to drought five times: in 1975, 1977, 1980, 1981 and 1982. During those years the yield was 10, 13, 16, 15 and 16 quintals respectively. During favorable years it rose to 20 or 25. Therefore, Kazakhstan's scientists reached the conclusion that drought should not be considered a natural calamity, in the face of which grain growers are powerless, but a naturally repeated phenomenon, which can be counteracted with advanced agricultural engineering methods. On the experimental model farm, whose arable land occupies 47,000 hectares, snow retention against a stubble background is carried out, as a rule, on an area of no less than 28,000 hectares. Well, the farm's results speak for themselves: During the years of the 10th Five-Year Plan the average annual delivery of grain to the state increased by 3,000 as compared with the 9th Five-Year Plan, totaling 27,000 tons, and the average yield was 18.8 quintals per hectare. During this very dry year the brigade of Hero of Socialist Labor Stanislav Ivanovich Gavriluk obtained 20.5 quintals per hectare. As though there was no drought!

On the farm every field is an experiment. For example, for many years there was a search for the optimum crop rotation. A five-crop rotation, where fallow occupies 20 percent of the area, proved to be the most effective. It would seem that an answer was found. However, today, when animal husbandry is developing so intensively in the republic, which means that the role of grain fodder crops is increasing, scientists suggest that barley and oats be included in crop rotation, making it a six-crop rotation. In northern wetter oblasts the share of these crops producing 25 percent more grain than wheat can be higher. The structure of fields in such a crop rotation is as follows: fallow, two wheats, oats, wheat and barley. Fallow occupies 16.7 percent of the area. On the other hand, barley and oats help to fight weeds owing to late sowing periods. Furthermore, oats play the role of a sanitarian. After them wheat is affected less with root rot.

Incidentally, wheat sowing periods also represent a kind of method of weed control. How difficult it was once to overcome the age-long idea of the advantages of early sowing periods in people's consciousness. "Sow in mud and you will be a prince" and "if you sow earlier, you will gather more," proverbs taught. However, it turned out that on some virgin land fields wild oats, not wheat, were gathered. This wild attack of weeds on fields was called then "green fire." How to control it?

The followers of Barayev taught that wheat should be sown later than the accepted period, that is, approximately from 15 through 25 May, when weeds provoked by presowing cultivation have already appeared and have been destroyed. Furthermore, ear formation coincides with the period of precipitation and in dry June spring grain crops utilize the moisture accumulated in soil during the winter and spring period.

Such periods are also suitable for Chelyabinsk Oblast, where wheat was sown before May. Where grain crops were sown on 20 to 25 May, the yield rose 2.5-fold.

Many guests, arriving in Shortandy during sowing, are surprised by the low seeding rates--2.5 million germinated seeds per hectare. This represents not only a saving of seeds, they are told, but an additional potential for an increase in the yield as well. If this rate is overstated during sowing with stubble seeders, seedlings will be crowded and the harvest will be lowered.

The institute's scientists and the specialists of the experimental model farm are more and more often asked another question: How to increase the efficiency of clean fallow and to recondition this field in crop rotation?

Two years ago D. Angel'yev, director of the famous Rostov Gigant Sovkhoz, wrote in PRAVDA: "I know well from experience: After a dry year it is easier to talk about clean fallow. All objective indicators are in its favor. However, a year with abundant precipitation comes and the acuteness of the problem diminishes. Someone begins to count on success. An attack on the fallow wedge is waged under any pretext."

Fallow is a field making it possible to obtain more grain with small labor expenditures. This is the conclusion of those who learned to work with fallow and, first of all, to cultivate it correctly and at the proper time. True, on the experimental model farm the fallow wedge is not called a field, but halves of two fields, that is, every field in parts lies fallow for 2 years. Such a fragmentation is needed for the following reasons. First of all, fallow must be clean. Then it requires no less than five or six cultivations with a sub-surface cultivator and with the BIG-3 spike harrow and the last, with the KPG-2-150 deep ripper. Each is 1 or 2 cm deeper. However, such a number of cultivations almost completely destroy stubble, but fallow must also accumulate moisture. Band placement of fallow, that is, alternation of sown and clean plots, is the way out. The width of bands on the experimental model farm is 100 to 150 meters and they are cut across the prevailing winds. Where soil is light, the width of bands is up to 50 meters.

The sowing of mustard couliesses is a mandatory condition for a better accumulation of moisture in the fallow wedge.

The institute's scientists also search for more effective ways of preserving stubble and reducing labor expenditures during the care of fallow. Minimalization of soil cultivation is attained by means of herbicide application. A double saving of labor and fuel expenditures was obtained on fields where two cultivations with subsurface cultivators were alternated with two sprayings of the 2,4D preparation. Weediness in fallow was reduced sharply and the remaining stubble helped the field to be covered with a snow fur coat.

In 1978-79 the protracted and cold spring in Kazakhstan did not make it possible to get rid of weeds before sowing. The most dangerous weeds, that is, wild oats, "did not come out" before the end of May. An attack on them was waged by means of the triallate herbicide. It has been demonstrated that the spraying of fields infested with wild oats during 3 years with subsequent fallowing eliminates weeds completely. In this case wild oats do not appear in the field for 7 to 8 years.

Throughout crop rotation the fallow field is dressed with fertilizers. The farm's soil contains a sufficient quantity of nitrogen and potassium. Therefore, only superphosphate is applied as follows: 80 kg of the active substance per hectare in a five-crop rotation and 10 kg, in a six-crop rotation. The effect is the same as during the utilization of fertilizers in small doses on all fields, while labor expenditures are much lower.

Phosphorus applied according to the norm contributes to a better assimilation of nitrogen by plants and helps them to endure the dry beginning of the summer with less "suffering." The coefficient of return from fertilizers with such a method of their application is high. A kilogram of the active substance produces about 15 kg of grain on the experimental model farm. Thus, a sensible dressing of a field with fertilizers is another barrier to drought.

Superphosphate is applied by means of the KPG-2,2 deep fertilizer-digger at the depth of 12 to 14 cm. It is best to do this during the first or second cultivation.

Now, when more and more powerful machines appear on farms, there is reason to also make soil cultivating equipment with a wider coverage. KPSH-15 subsurface cultivators, which will replace KPSH-9 subsurface cultivators, are undergoing tests on the fields of the experimental model farm. Stubble seeders appeared with a 14-meter coverage. The BMSH-15 and BMSH-20 hoe-harrow converted to hydraulic operation will replace a number of implements. KTS-10-1 and KTS-10-2 will be twice as productive as the KPE-3.8 cultivator with the SP-15 hitch. The new KPG-2-150 deep ripper can be unitized both with T-150 and Kirovets tractors.

Fodder getting brigades engaged in the cultivation of perennial grass will soon obtain stubble seeders. In general, much attention is paid to grass at the institute. Scientists set the task of learning how to cultivate perennial grass on unproductive land, vacating areas designed for it on arable land for grain. Cereal grass is sown here towards winter--during the second half of October--so that shoots may have time to utilize the moisture of the upper rapidly drying soil layer.

Unproductive land is mainly solonets. Therefore, a big place in the institute's experimental work is assigned to the method of developing it. A new unit with the PMR-1,6M plow, which removes the upper layer, at the same time mixing two underlying layers, will help to increase the yield of this land. Recently, the institute's scientists, for whom it became crowded on the fields of the experimental model farm and the Stepnoishimskaya Experimental Station, obtained so-called marginal land from the neighboring sovkhos. Now they themselves have become convinced and they convince others that not only yellow sweet clover, wheat grass and lyme grass, but also such a grain crop as barley, can grow on solonets. A total of 25 quintals of barley per hectare are obtained where previously almost nothing grew.

A new barley variety, that is, tselinnyy-5, developed in Shortandy, has now become established on the fields of Altay and of Omsk, Novosibirsk, Ulyanovsk and Saratov Oblasts. The grains of this variety contain a full set of amino acids. It makes it possible to balance fodder in nutritiousness without the use of oil cakes and mixed feed.

From many of the country's regions people come to the experimental model farm for the seeds of tselinnaya-20 and tselinnaya-21 spring wheat. Such varieties as pirotriks-28, shortandinskaya-25 and shortandinskaya-75 have also appeared here.

Those who are not here for the first time, all the same, have something to learn and to wonder at. And sometimes even to envy. Let us take, for example, two recirculation dryers, each of which "services" 11,000 hectares. This unit is not only more powerful, economical and reliable, but, most importantly, dries grain of any moisture and in a soft regime, even seed grain.

Sometimes farm envoys come only for seeds, but leave as ardent devotees of advanced soil cultivation methods. After that the bonds of this cooperation are not disrupted for years and decades. The institute has strong relations with farms in the Poltava area, the Volga area, the Urals, the Orenburg area, Kuban and Rostov Oblast.

Vitaliy Mikhaylovich Sergeyev, director of the Novosibirsk Krasnoyarskiy Sovkhoz, came to the institute several years ago. He did not come alone, but with the chief agronomist and department managers. Since that time every year there is a harvest increase on the farm. Last year kolkhoz chairmen and sovkhos directors of all Ordynskiy Rayon came to visit the institute. A program for the introduction of the soil protective farming system on all farms has now been developed in this rayon.

In the Orenburg area this system has been established on 2 million hectares. Everything began from the fact that A. I. Barayev accepted four chief agronomists from Orenburg Oblast as graduate students. The results of research on farms were described in dissertation pages. Later they became the property of many brigades, sovkhoses and rayons. However, this happened after years. And then--how much criticism was leveled, for example, at the fields of the Sovkhoz imeni 19 S'yezda Partii in Svetlinskiy Rayon, where Valentin Dmitriyevich Khopreninov introduced the new system. "This is not a field, but some kind of overlapping of agricultural lands," was heard from all sides. Khopreninov knew: An increase in the yield on all sovkhos fields, not the dissertation, will convince people.

Barayev received a letter from Valentin Dmitriyevich not long ago. With the present drought the sovkhos gathered 13.6 quintals per hectare—almost twice as much as in the rayon.

This means that it is possible to place a barrier to drought.

COPYRIGHT: "Sel'skoye khozyaystvo Rossi", No 12, 1982

11,439

CSO: 1824/187

FORESTRY AND TIMBER

UNSATISFACTORY PERFORMANCE OF TIMBER, PAPER INDUSTRY ASSESSED

Moscow PRAVDA in Russian 21 Mar 83 p 1

[Article: "The Timber Complex"]

[Text] Our country has almost one-fourth of all the green wealth of the planet. It is necessary to deal with this economically, intelligently and thriftily. This is the way work is being today at the Irkutskles and Pri-karpatles associations, the Moscow furniture combine No 1, the Kotlassy pulp and paper combine and a number of other leading enterprises of the USSR Ministry of the Timber, Pulp and Paper and Wood Processing Industry. They completed last year's plan successfully and appreciably improved qualitative indicators.

But the branch as a whole has been operating unsatisfactorily this year. The national economy has received tens of millions of cubic meters of timber materials less than planned, and the output of several kinds of basic products has decreased. During two months of this year they did not provide for the planned volume of output of a number of kinds of products, including lumber.

One of the reasons for the arrears is the poor management of subdivisions of the timber industry on the part of the USSR Ministry of the Timber, Pulp and Paper and Wood Processing Industry. It is no accident that in certain associations the level of organizational work and executive discipline have declined. It was a feverish year, for example, for the Zabaykalles association, in spite of repeated assurances that its management would rectify the situation. Because of absenteeism alone each year more than 5,000 people are not working in the branch. The proper order has not been arranged everywhere in the selling areas and lower warehouses, and a good deal of raw material is lost on the wood lots.

In 1983 the branch is faced not only with overcoming the arrears, but also increasing the volume of product sales by 4.3 percent as compared to last year. The output of consumer goods should increase at more rapid rates. The increase in production will have to be provided practically without any increase in the number of workers.

The ways of increasing the efficiency of the utilization of timber resources lie in further development and strengthening of comprehensive measures which make it possible to realize the advantages of concentration of timber work with wastefree processing of raw material. The experience of the collective of Ivano-Frankovsk Oblast for efficient utilization of local timber resources, which was approved by the CPSU Central Committee, is instructive. Unfortunately, so far this experience is being poorly introduced in other regions of the country.

Now far from all the wood is used efficiently, and much of it goes to waste in all stages of processing. And one of the reasons for this is the failure to fulfill assignments for the introduction of new material-saving equipment. During 1982 only 26 of the 43 assignments were fulfilled. One should draw certain conclusions from this and mobilize the efforts of the corresponding services and subdivisions to introduce scientific developments into production.

And what is the situation with the paper industry workers? They have tried to realize with actions the decree of the CPSU Central Committee concerning the work experience of the collectives of the Kotlassy and Solikamsk combines for economizing on timber raw material and other resources. They have changed over to planning and accounting for the output of many kinds of paper and cardboard in square meters instead of tons. A good deal has been done to produce paper with low mass-intensiveness, as a result of which last year they managed to reduce considerably the expenditure of timber raw material. Still the ministry must more aggressively introduce advanced experience at other enterprises.

An important task facing the branch is to increase the output of chipboard. Last year the plan for producing it was not fulfilled. The ministry is now working on a large program for technical re-equipment of the chipboard production. It needs assistance from the USSR Gosnab and the Ministry of the Chemical Industry, which must arrange continuous delivery of chemical raw material according to the ordered list.

The problem of fulfilling the plan for delivery of timber to the national economy is critical. Last year it was not fulfilled, mainly because of the railroad workers who provided almost a half million cars fewer than was planned. The USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry and the Ministry of Railways have developed joint measures for improving the work this year. But what is the value of these measures if even during the first two months of this year they failed to deliver almost 80,000 cars. The delivery of cars was especially unsatisfactory for the Arkhangel'sklesprom, Kirovlesprom, Komilesprom and Permlesprom associations.

Construction organizations are unsatisfactorily supplied with timber materials. During January-February especially important construction sites received much less commercial timber than was planned. In the Tajik, Turkmen and Uzbek SSR's during two months they delivered half of the allotted supplies of commercial timber. Because of this in a number of places there is a delay in the startup of residential buildings, kindergartens and facilities for cultural and domestic purposes.

The delivery of paper products has deteriorated sharply. The Segezha pulp and paper combine has accumulated several million paper bags for packaging fertilizers which are so necessary for workers of the fields, the Kondopoga plant has accumulated thousands of tons of newsprint and Arkhangelsk and Kotlassy have accumulated 40,000 tons of pulp, paper and cardboard. It is necessary during the remaining days of March and in April for the Ministry of Railways to take effective measures for providing cars for delivering timber materials and paper products in keeping with the established plan.

In order to rectify the situation, the collectives of the timber complex in conjunction with railroad workers and timber supply and sales organizations must have a clear-cut plan of action which is directed toward unconditional fulfillment of the plans for shipment and improvement of the utilization of rolling stock. They must develop competition more extensively and sum up its results regularly. It is necessary to continue to increase the route, package and container shipments of timber products, improving the utilization of their own and rented rolling stock.

The board and the party committee of the USSR Ministry of the Timber, Pulp and Paper, and Wood Processing Industry must analyze in depth the work of the branch during the first quarter of the year. It would be expedient to consider questions of procurements and processing of raw material at conferences and consultations of directors. Main attention should be devoted to strengthening the policy in production as well as delivery discipline, and increasing the demands made on each worker. This will make it possible to fulfill the assignments of the five-year plan more successfully, not only for the subdivisions of the timber complex, but also for many related branches of the country's national economy.

11772

CSO: 1824/273

FORESTRY AND TIMBER

TIMBER TECHNOLOGY COLLABORATION OF CEMA COUNTRIES

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 1, Jan 83 pp 31-32

/Article by G. Laryukhin, deputy director of the All-Union Scientific-Research Institute of Forestry and Mechanization of the Timber Industry of the USSR and head of the Coordination Center: "All-Round Mechanization of Forestry Operations"/

/Text/ The NRB /People's Republic of Bulgaria/, VNR /Hungarian People's Republic/, PNR /Polish People's Republic/, USSR and the ChSSR /Czechoslovak Socialist Republic/ have developed uniform technological principles for the raising of planting stock in nurseries (principal power engineering resources, width of tractor tracks, sowing types and systems and plantings of coniferous and deciduous strains), which are taken into account when creating new machines.

A working group of specialists representing the NRB, VNR, PNR and USSR has proposed a uniform approach for the development of technological charts and it has prepared technological charts for the creation of forestry crops in co-executor countries and this has made it possible to conduct a technical-economic evaluation of the conditions for and efficiency of use of various technologies and machines. Recommendations have been developed for the optimum equipping of the machine-tractor pools of forestry enterprises and for organizing the use of the forestry machines, which will serve as the basis for the norms for the annual workload and requirements for forestry machines.

A great amount of importance is being attached to joint or comparative testing of the forestry machines and implements, created by national institutes or as a result of joint works. Such tests provide an objective evaluation of the advantages of a particular design and they make it possible to select the best machines for further production and introduction into the forestry operations of the collaborating countries. Thus, comparative tests were carried out in the NRB on special machines for use with planting stock, as a result of which a working group of specialists from the NRB, GDR and the USSR jointly developed a more improved type of machine. In successfully carrying out the program of studies, considerable importance is also attached to training and to raising the qualifications of the scientific and technical personnel. Within the framework of the Coordination Center, seminars have been conducted

on such themes as: "Technology and Resources for the Mechanization of Forest Restoration Work" (USSR); "Technology and Resources for Mechanization for Artificial Reforestation on Non-Stubbed Out Tree Felling Sites" (VNR); "Technology and System of Machines for All-Round Mechanization in the Creation of Crops Using Seedlings With a Closed Root System" (ChSSR) and a conference on the theme "Development of Technologies for Work in Nurseries" (GDR). Specialists from all of the co-executor institutes participated in the seminars. Specialists from the Republic of Cuba, the MNR (Mongolian People's Republic) and the SFRYu /Socialist Federated Republic of Yugoslavia/ were invited to the seminar in the USSR and specialists from the Republic of Finland -- to the seminar in the ChSSR. The measures carried out made it possible to become acquainted with the scientific and practical achievements in the mechanization of forest restoration work and to exchange opinions on the trends in the development of such work.

Based upon a long range forecast and experience acquired earlier in scientific-technical collaboration, a program for collaboration was adopted for the 1981-1985 period. It includes the development of a technology and a complex of machines and equipment for mechanizing and automating the cultivation of planting stock, having open and closed root systems and under conditions involving both a controlled environment (hothouse) and open ground. Machines will be created for trimming the root systems of growing seedlings for the purpose of improving their tillering; a combine for digging up and selecting seedlings, which will replace the manual labor performed by 50-60 individuals.

The plans call for the development of promising technologies and more improved mechanization and automation equipment for the artificial reforestation of a forest under both plain and mountainous conditions. A hydraulic machine is being created for cutting out newly made stumps instead of uprooting them, since the latter method removes a considerable portion (up to 75 percent) of the upper sod layer. This leads to a deterioration in the water and physical properties of the soil, to a reduction in its fertility and hence to a slowdown in the rooting and growth of the forest crops planted. A cutting machine is also being created for the strip preparation of soil on tree felling sites, with simultaneous crushing of the timber felling residues, undergrowth and small stumps. Subsequently, the planging of forest crops on these strips can be carried out using an automated tree planting machine at raised speeds (6-8 km per hour instead of 1.5-2 km per hour using existing machines). Work is being carried out in connection with improving the planting machines and the technologies for the automated planting of seedlings on tree felling sites under plain (not mountainous) conditions. A more improved machine is being created for the mechanized tending of forest crops.

Work is continuing on the development of machine complexes for the mastering of gully and ravine systems, tree felling areas and rocky soils located in mountainous terrain. Specialists from the NRB, SRR /Socialist Republic of Romania/, USSR and the ChSSR are working on the creation of machines for the clearing of strips, for uprooting stumps and carrying out terracing, on an automatic tree planting machine and others which will ensure all-round mechanization of operations.

A new trend is the joint development of the ergonomic requirements for the designs of forestry machines (NRB, PNR, USSR, ChSSR). This work has been adopted in view of the fact that a greater amount of attention is being given

at the present time to the scientific principles and measures for sanitizing working conditions and to lowering the professional morbidity rate and occupational injuries appearing in the forestry workers. A study will be undertaken of those unfavorable factors which accompany mechanized operations and prophylactic measures are being prepared for reducing or eliminating the harmful influence caused by these factors. The new machines must be not only economically effective and reliable of operation, but in addition they must also be easy to service. Moreover, the new equipment and technology must not exert an adverse effect on the environment and particularly on the forest as a biological system on the whole.

A search will be undertaken to find the means for further improving the operation of the machine-tractor pool of the NRB, PNR, SRR and the USSR and this will serve as an important reserve for raising labor productivity.

On the whole, the program for the current five-year period is distinguished by the fact that it devotes special attention to the mechanization of working processes and operations, which during the present stage are being carried out manually or under harmful conditions and involve rather high labor and resource expenditures and also to tree plantings on unsuitable lands and to increasing protection for the forest crops.

It is obvious that collaboration in the area of all-round mechanization has produced definite results. But up until now it has been carried out on the basis of coordinated studies and in the absence of a contractual formulation of the obligations of the co-executor institutes. As a result, the schedules for developing the individual themes and stages have not always been followed and at times certain tasks of the co-executors have been excluded entirely. During the course of drawing up the contracts, difficulties arise in connection with the fact that the representatives of the countries, in the council of authorized representatives, lack adequate competence for solving the financial aspects of the contractual relationships.

In view of the fact that collaboration on a contractual basis is most effective, a contract has presently been prepared and coordinated among the forestry institutes of the USSR and ChSSR concerning the development of digging-up and selection machines. The Soviet side has also prepared and has two more themes in the coordination stage: "A Study of the Technical-Economic Indicators of Machine-Tractor Assemblies" -- between the All-Union Scientific-Research Institute of Forestry and the Mechanization of Forest Husbandry (USSR), the Forest Institute (NRB), the Scientific-Research Institute of Forest Husbandry (PNR) and the Forestry Scientific-Research and Forestry Management Institute (SRR); "Development of the Ergonomic Requirements for the Designs for Forestry Machines" -- between the institutes of the USSR, NRB, PNR and the ChSSR. Thus the principal themes for the program of scientific-research and experimental-design work for 1981-1985 will be carried out on a contractual basis with a more precise division of labor among the collaborating parties. Up until recently, instead of a transfer of completed works, only an exchange of information on results achieved has taken place.

At the present time, each country will produce for itself machines of a particular type for use in carrying out certain types of work -- plows, tree-planting machines, sowing machines, cultivators and so forth. The

requirements for many of these items of equipment in some countries are not very great. Hence the conclusion can be drawn that they must be produced in small series. Some countries -- CEMA member states -- are unable to satisfy their own requirements for a large nomenclature of various types of machines through production at their own enterprises. A reduction in the nomenclature of the machines being produced and a simultaneous increase in their series production can be achieved by solving the problem of specialization and the distribution of production in the various countries -- CEMA member states.

At the present time, the CEMA Secretariat has prepared a contract for multi-lateral specialization and cooperation in the production of machines for the mechanization of forestry and timber procurement operations. The draft contract was discussed at the end of September 1982 by representatives of the NRB, VNR, GDR, the Republic of Cuba, PNR, SRR, USSR and the ChSSR. Specialization was defined for seven countries in the production of 42 types of machines and items of equipment and the approximate requirements of the countries for these machines were revealed. The contract stipulates that other countries must not organize the production of machines and equipment in which they are not specializing and that if they do fines will be imposed. This is a rather complicated problem, since a machine which has been produced and proven its worth in the country specializing in its production may perform unsatisfactorily under other conditions found in countries not specializing in its production. Thus a need exists for organizing international tests of individual machines under various conditions. On the whole, the contracting parties have approved the contract for specialization in the production of equipment and at the present time its individual conditions are being defined more precisely.

The further development and improvements in mutually advantageous and highly effective relationships among the socialist countries will undoubtedly make it possible to achieve new successes in the area of mechanization of forestry production operations.

COPYRIGHT: Sovet Ekonomicheskoy Vzaimopomoshchi Sekretariat Moskva 1983

7026

CSO: 1824/272

END

END OF

FICHE

DATE FILMED

MAY 3, 1983